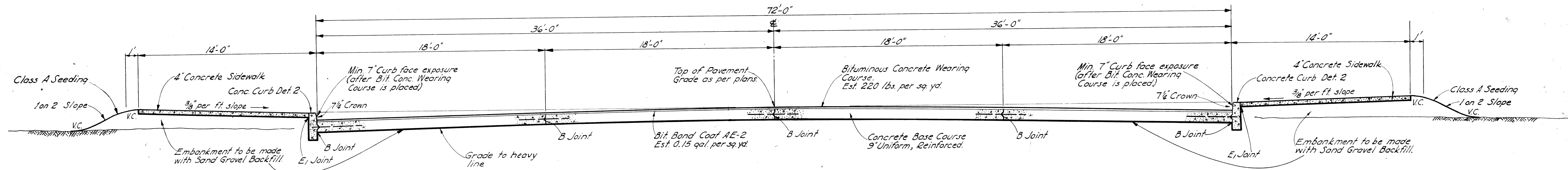


TYPICAL CROSS-SECTIONS

FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MI.	U1-39(49)			
ROUTE	STA. PROJ. DT.	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-63		Wayne	Detroit		
D. P. P. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ROUTE	STA. PROJ. DT.	COUNTY	CITY	SHEET NO.	TOTAL SHEETS

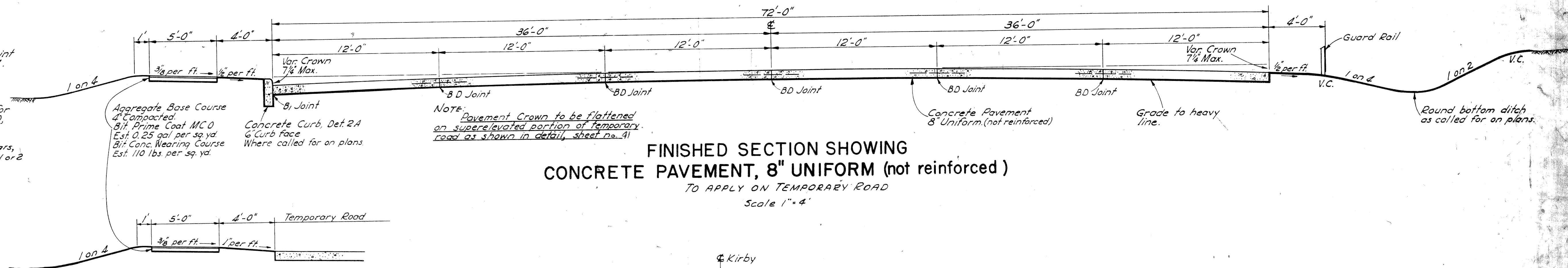


**FINISHED SECTION SHOWING
72' CONCRETE BASE COURSE, 9" UNIFORM,
WITH BITUMINOUS CONCRETE CLASS I**

Scale 1" = 4'-0"

NOTES
The exact location of poles will be determined by the Engineer.
The concrete base course shall be reinforced according to Std. Plan E-4-A-21 F.
Class A slopes will be required on this project.

- JOINT LEGEND**
- B --- Longitudinal Bulkhead Construction Joint with Tie Bars. Std. E-4-A-33 D, Det. 3 or 4.
 - E1 --- Transverse Expansion Joint without Load Transfer Device.
 - U --- Transverse Plane of Weakness Joint for Concrete Base Course. Std. E-4-A-33 D, Det. 7, Alternate 1 or 2.
 - D --- Longitudinal Lane Tie Joint with Tie Bars, according to Std. Plan E-4-A-33 D, Det. 1 or 2.
 - BD --- Optional B or D Joint.
 - B1 --- Longitudinal Bulkhead Construction Joint without Tie Bars.

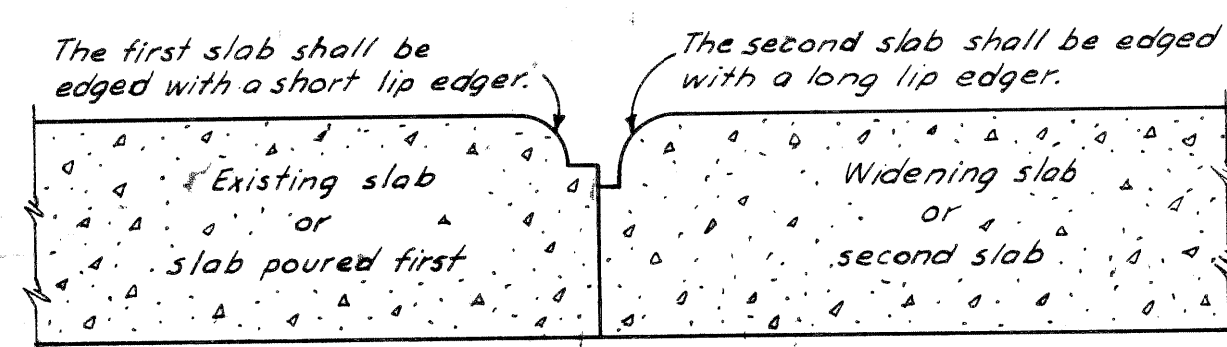


**FINISHED SECTION SHOWING
CONCRETE PAVEMENT, 8" UNIFORM (not reinforced)**

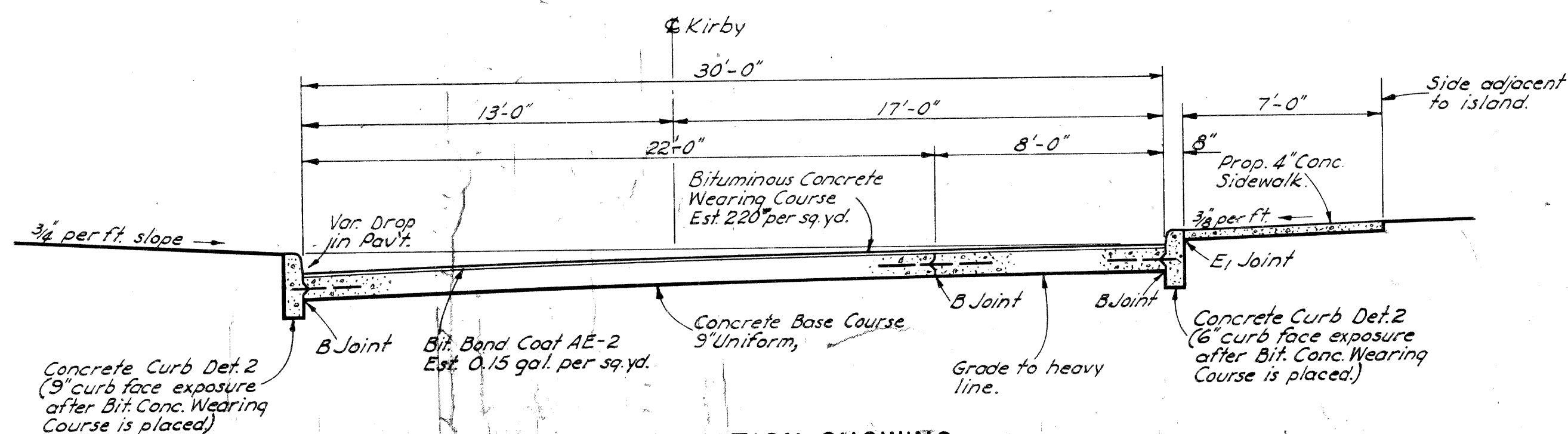
TO APPLY ON TEMPORARY ROAD
Scale 1" = 4'

**SKETCH SHOWING SIDEWALK ON
TEMPORARY ROAD WITHOUT CURB**

Scale 1" = 4'



**SKETCH SHOWING METHOD OF EDGING
WHERE ONE SLAB IS POURED AGAINST ANOTHER IN PLACE**



**FINISHED SECTION SHOWING
CONCRETE BASE COURSE, 9" UNIFORM
TO APPLY ON KIRBY AVE.**

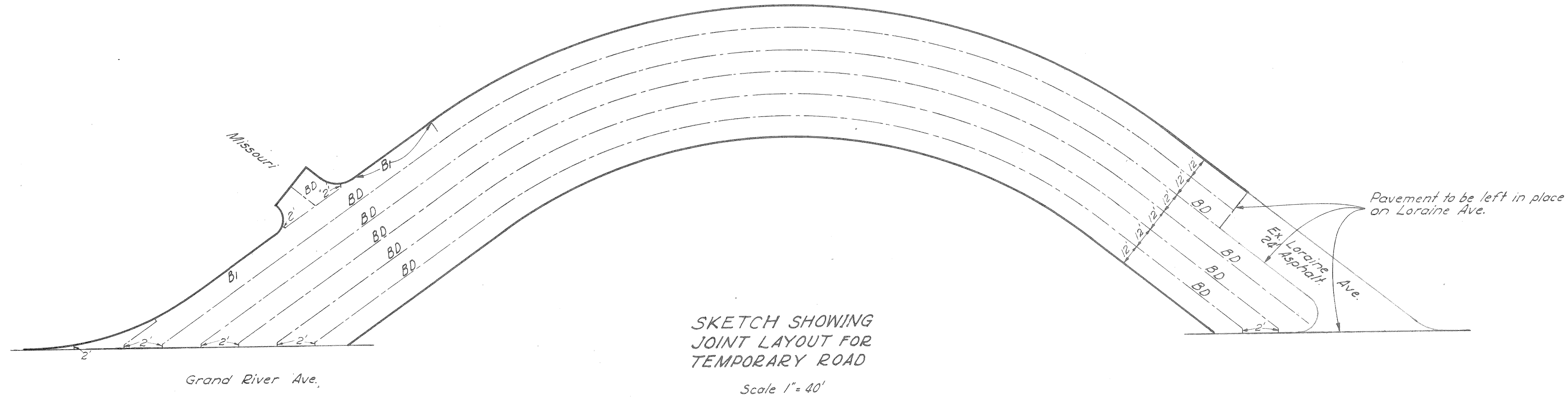
Scale 1" = 4'

DIVISION APPROVAL		
CHECKED	<i>[Signature]</i> CHIEF ROAD DRAFTSMAN (EXP)	6/30/52 DATE
CHECKED	<i>[Signature]</i> ASSISTANT ENGINEER OF ROAD DESIGN	6-30-52 DATE
RECOMMENDED FOR APPROVAL	<i>[Signature]</i> ENGINEER OF ROAD DESIGN	6-30-52 DATE
RECOMMENDED FOR APPROVAL	<i>[Signature]</i> CONSTRUCTION ENGINEER	7-2-52 DATE
APPROVED	<i>[Signature]</i> ROAD ENGINEER	7-2-52 DATE

GRAND RIVER AVE. BRIDGE APPROACHES
L-58-B-17

FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	11391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-163		Wayne	Detroit		
DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS

Squad Danielsen 4-52



- JOINT LEGEND**
- B Longitudinal Bulkhead Construction Joint according to Standard Plan E-4-A-330 Det. 3.
 - B1 Longitudinal Bulkhead Construction Joint without Tie Bars.
 - D Longitudinal Lane Tie Joints with Tie Bars according to Standard Plan E-4-A-330, Detail 1a-2.
 - BD Optional B or D.

Drawn by E. Waters 4-52

GRAND RIVER AVE. BRIDGE APPROACHES
L-58-B-17

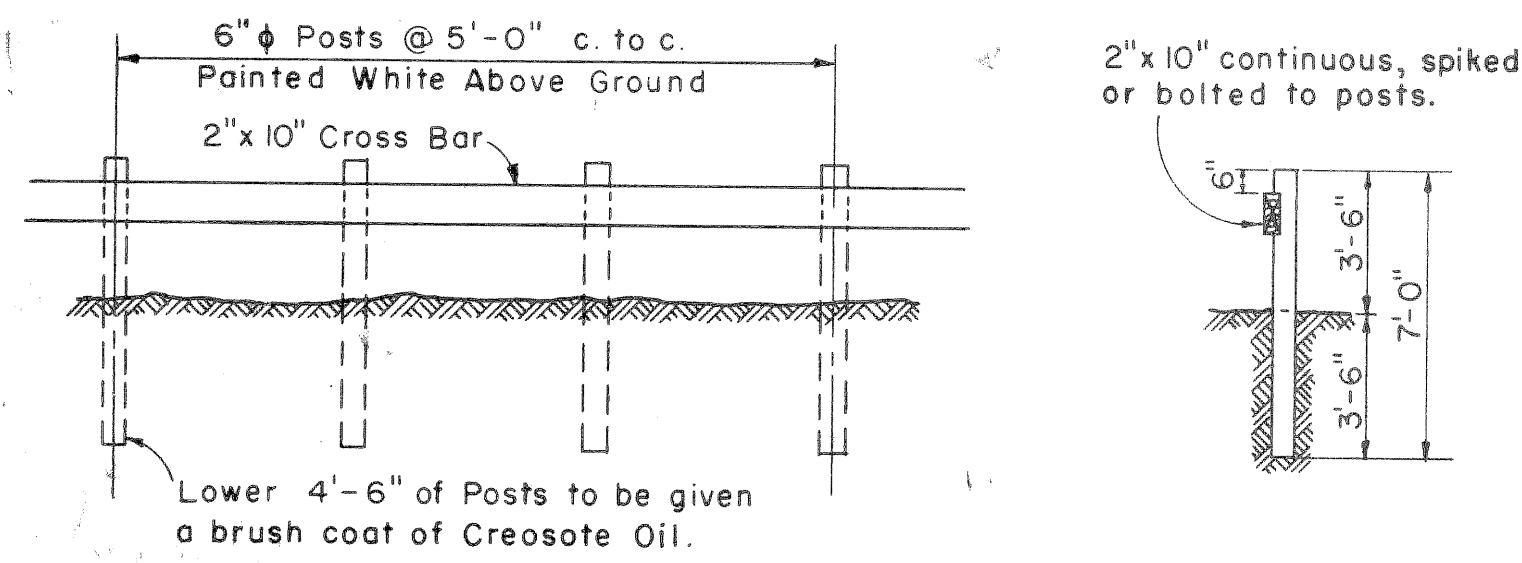
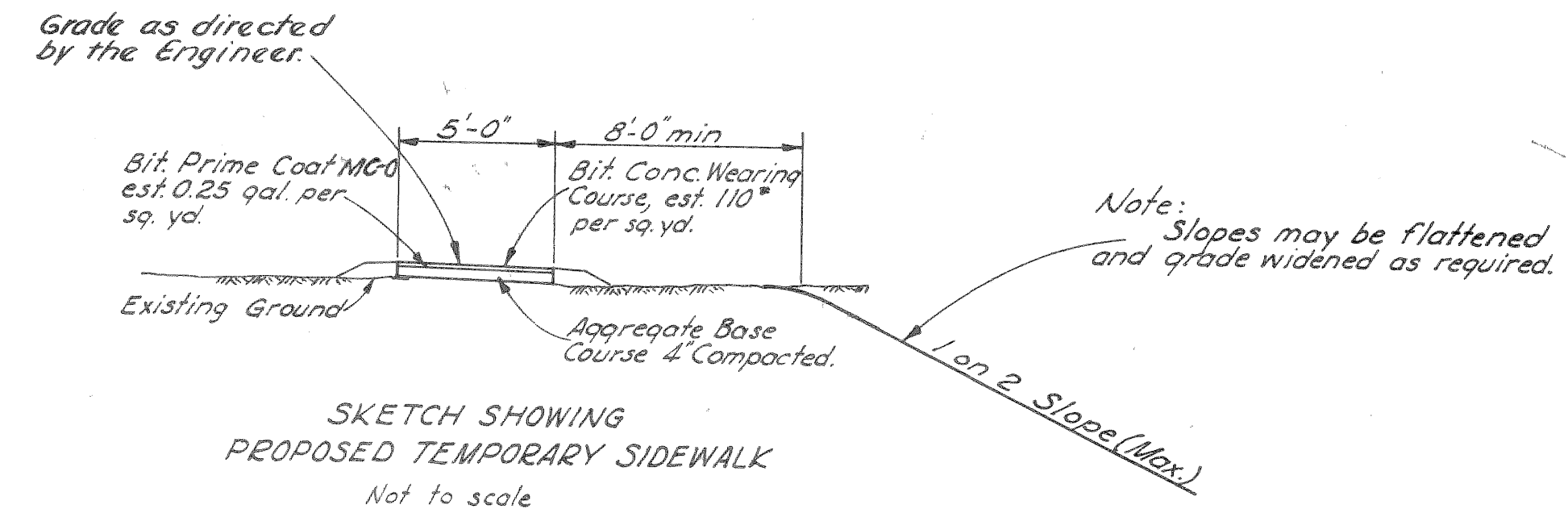
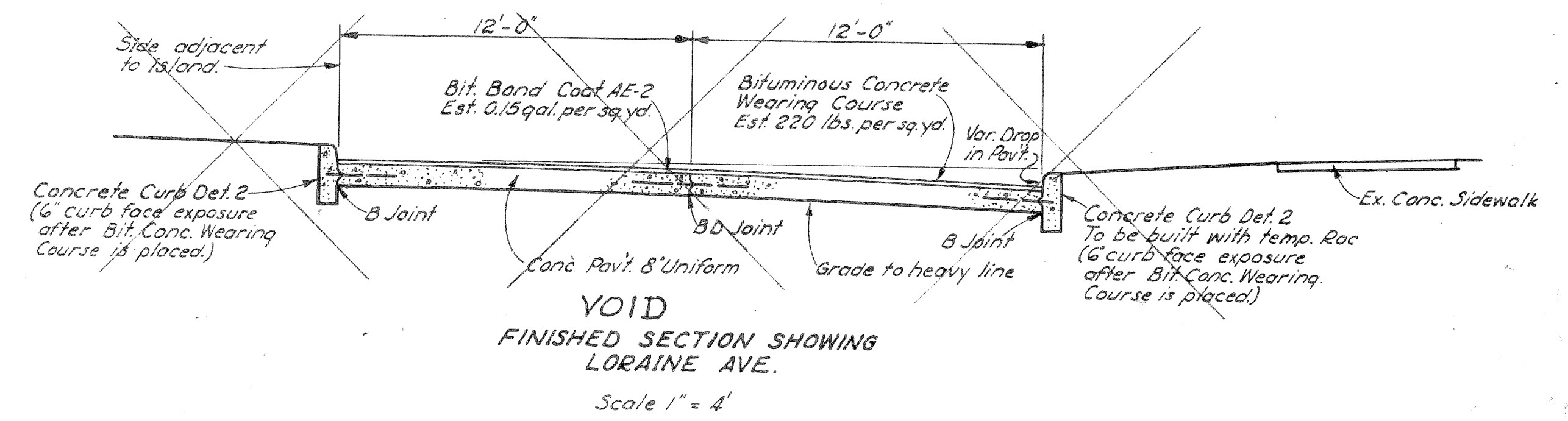
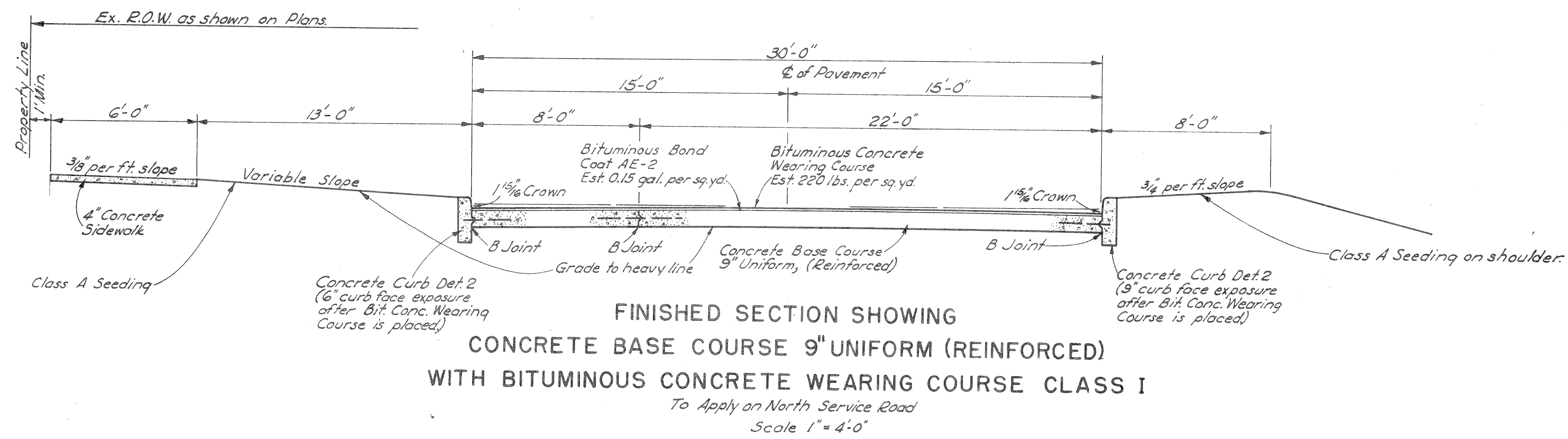
FILE NO. 82-163	STATE PROJECT 82-163	FEDERAL PROJECT 11391 (49)	SHEET NO. 10	TOTAL SHEETS 113
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TYPICAL CROSS-SECTIONS

FED. ROAD DIV. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	1139(49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-163	Wayne	Detroit			
FED. ROAD DIV. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS

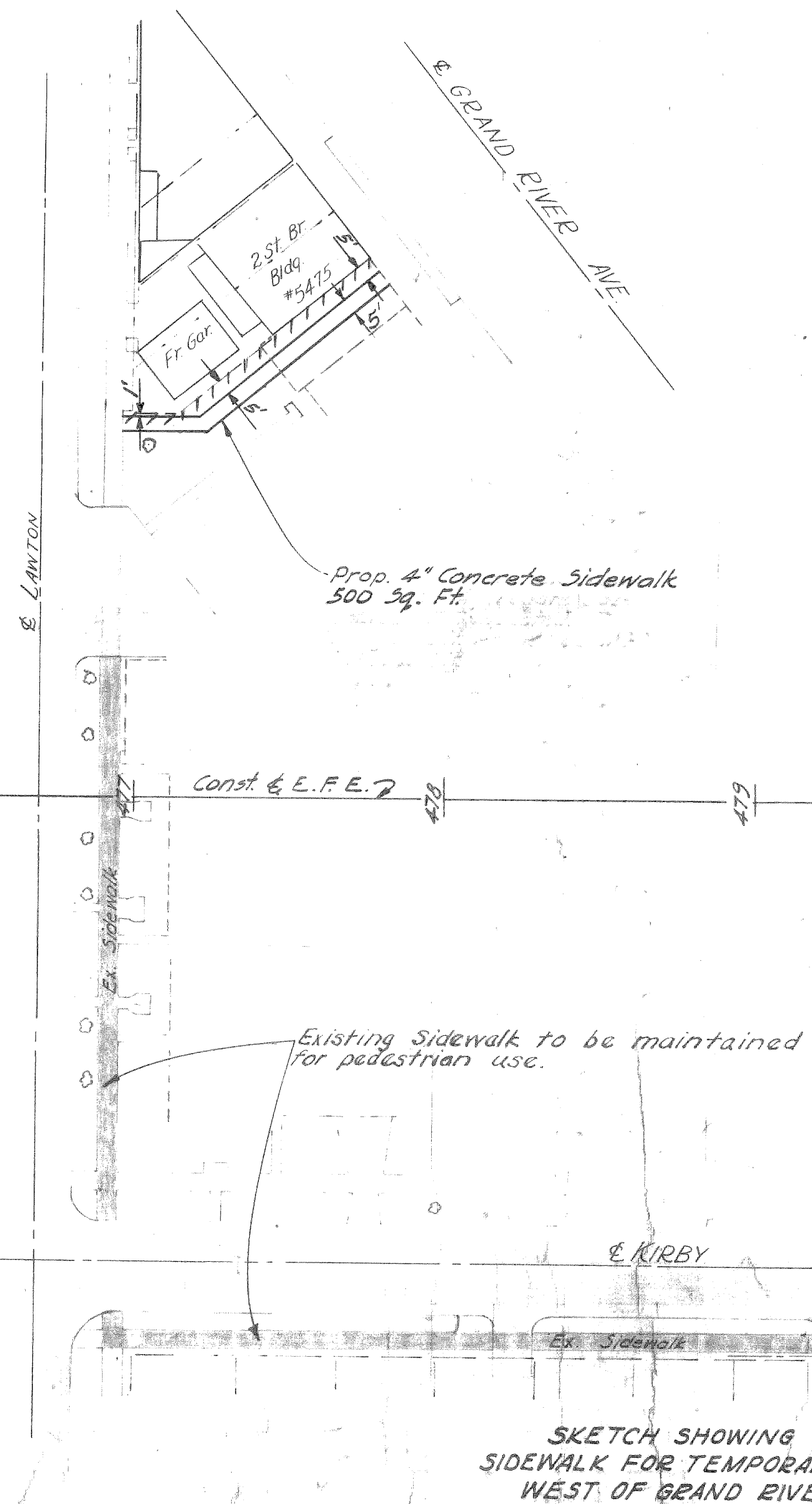
NOTES
 The exact location of poles will be determined by the Engineer.
 The concrete base course shall be reinforced according to Standard Plan E-4-A-21F.
 Class A slopes will be required on this project.

JOINT LEGEND
 B... Longitudinal Bulkhead Construction Joint with Tie Bars. Std. E-4-A-33D, Def. 3 or 4.
 U... Transverse Plane of Weakness Joint for concrete base course. Std. E-4-A-33D, Def. 7, Alternate 1 or 2.
 D... Longitudinal Lane Tie Joint with Tie Bars. Std. E-4-A-33D, Def. 1 or 2.
 3D... Optional B or D



DETAILS OF SEMI-PERMANENT BARRICADE
 SCALE 1" = 4'

Note:
 Each semi-permanent barricade shall be 10' longer than the width of pavement of the cross street or alley to be protected.



GRAND RIVER BRIDGE APPROACHES
 L-58-B-17

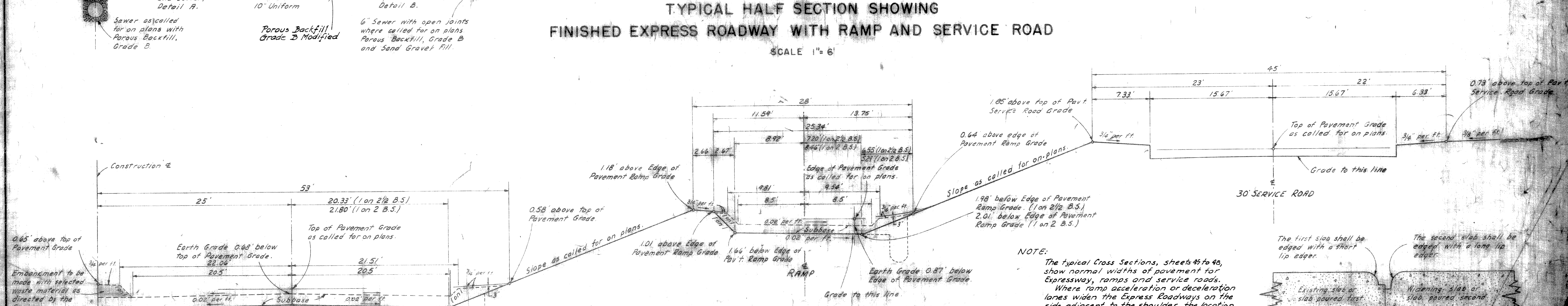
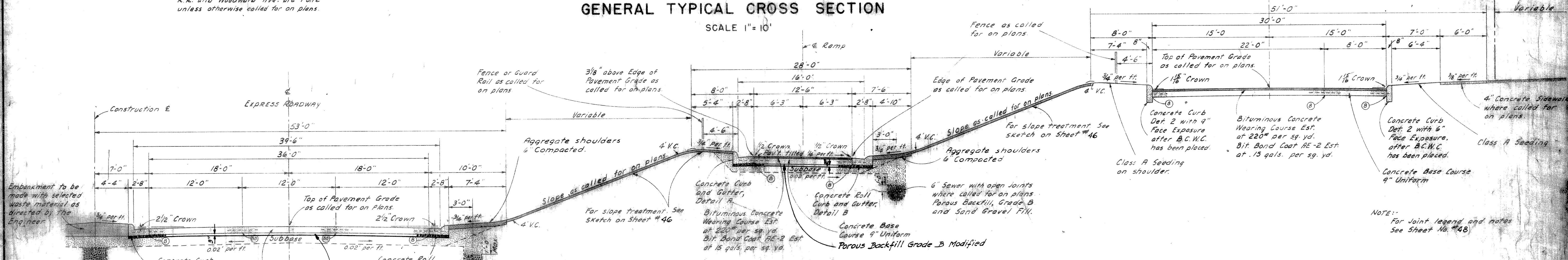
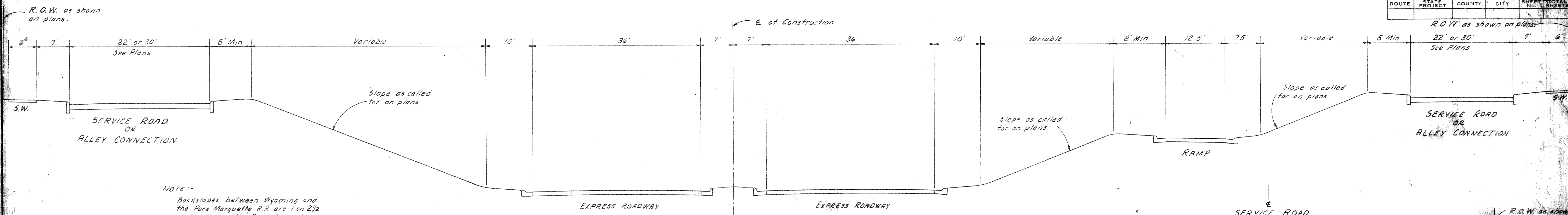
FILE NO. 82-163-10-10
 NO. 550
 STENCIL B34 of 82-22-10

Squad - Danielson 4-52

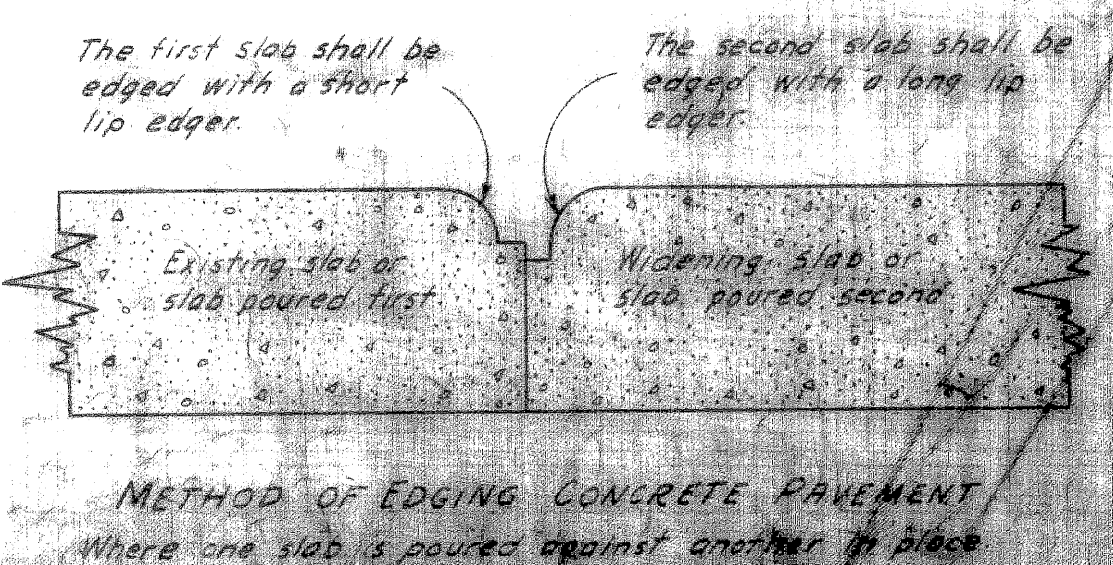
Drawn by E. Walters 4-53

TYPICAL CROSS-SECTIONS

FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	U1391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-163	WAYNE	Detroit		

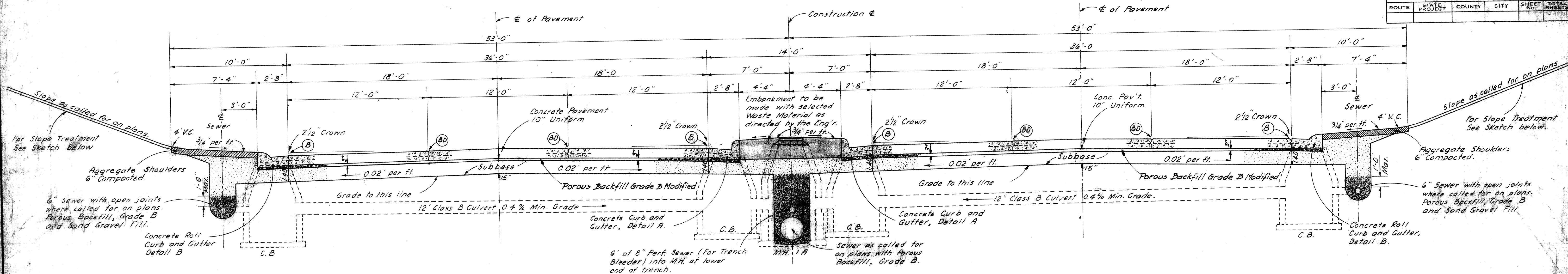


NOTE:
The typical Cross Sections, sheets 43 to 46, show normal widths of pavement for Expressway, ramps and service roads. Where ramp acceleration or deceleration lanes widen the Express Roadways on the side adjacent to the shoulder, the location of the shoulder point shall be as follows: 10' from the normal Expressway pavement edge where lane widening is 2.5' or less. 7.5' from the lane edge where widening exceeds 2.5'.

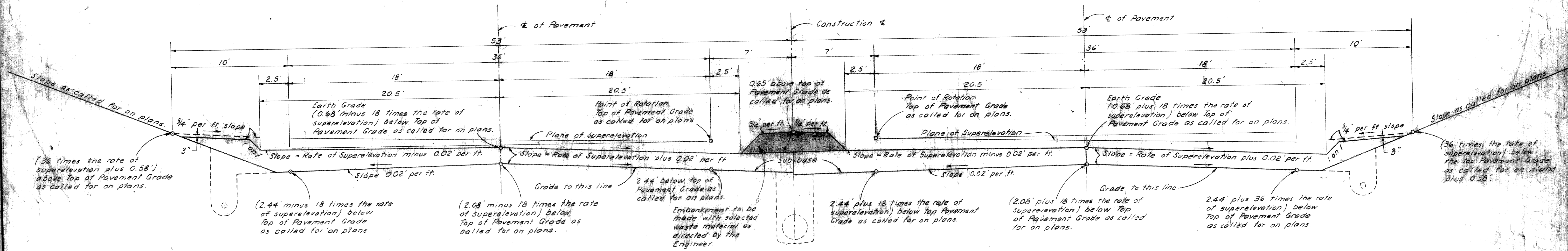


TYPICAL CROSS-SECTIONS

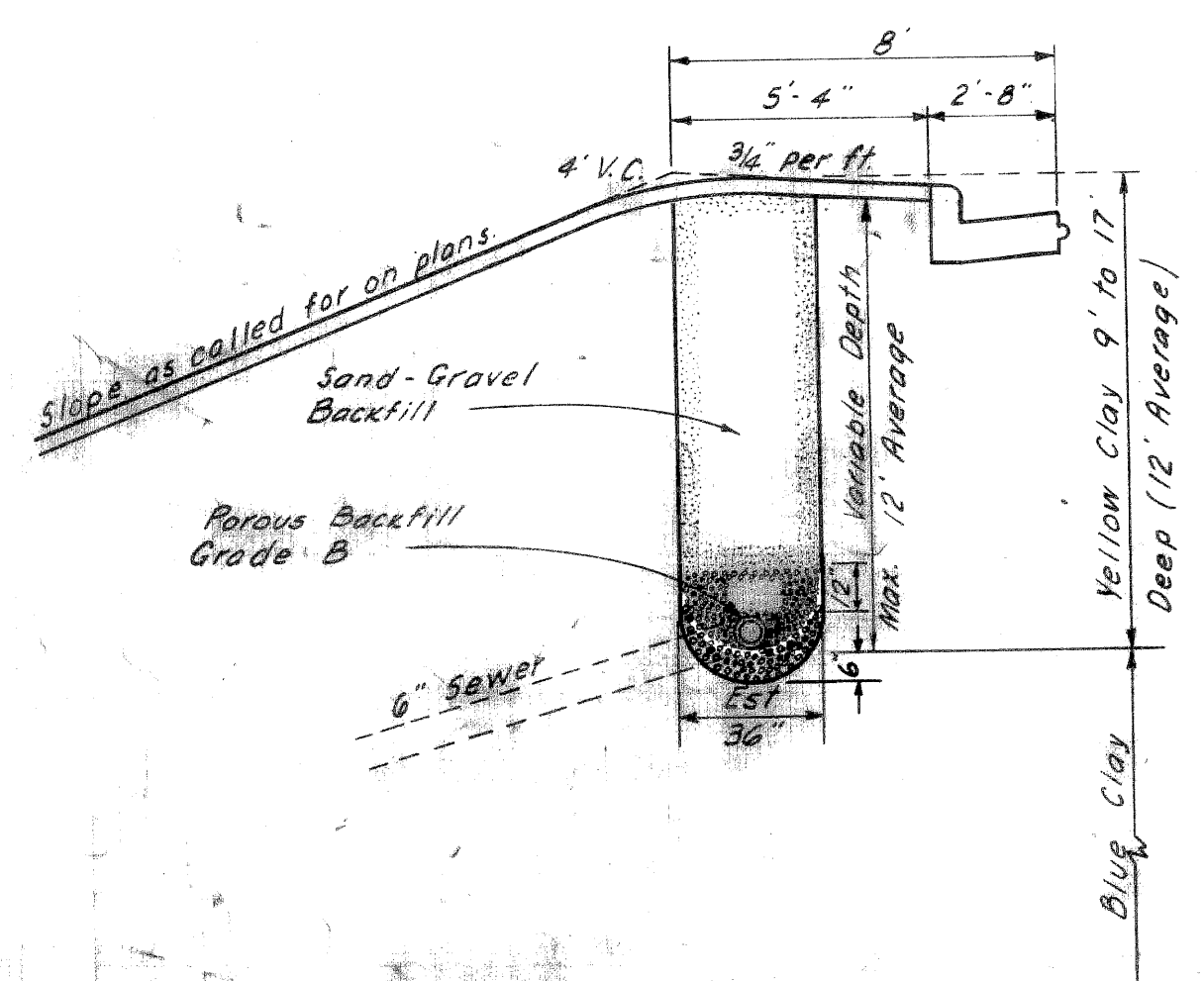
FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	UJ 391(40)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-163	WAYNE	Detroit		
FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS



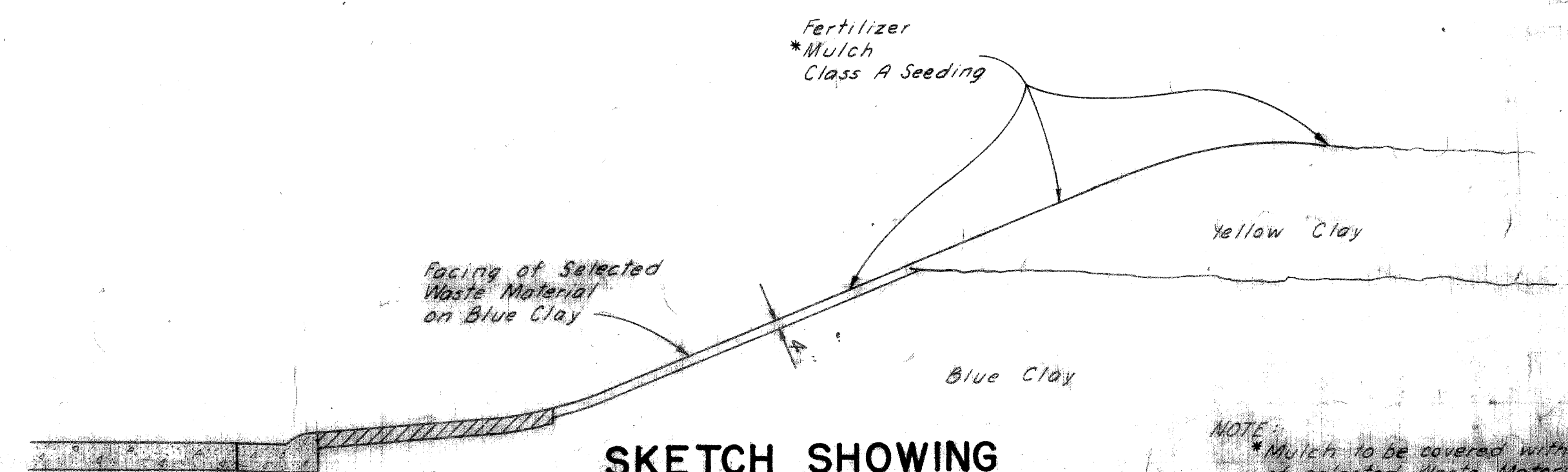
TYPICAL CROSS SECTION OF EXPRESSWAY SHOWING PAVEMENT, SUBBASE AND UNDERDRAINAGE
SCALE 1" = 4'



TYPICAL CROSS SECTION FOR GRADING SUPERELEVATED EXPRESSWAY
SCALE 1" = 4'



SKETCH SHOWING BANK DRAIN
SCALE 1" = 4'



SKETCH SHOWING SLOPE TREATMENT
SCALE 1" = 4'

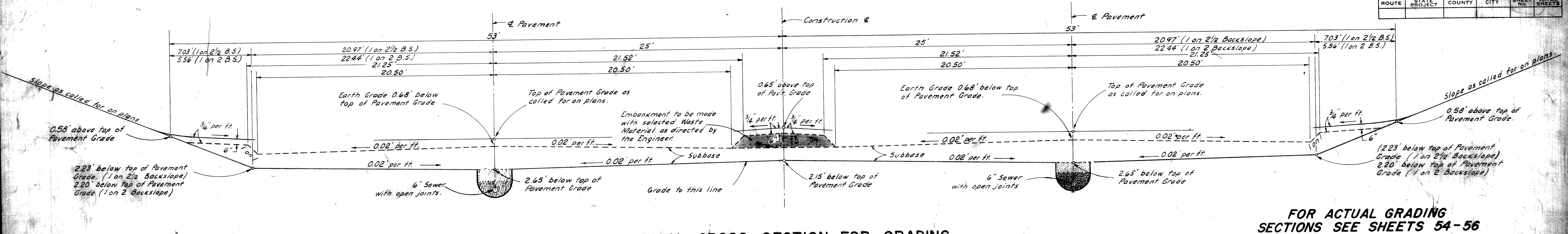
NOTE: For Joint Legend and Notes See Sheet #9B.

NOTE: Mulch to be covered with a thin coating of selected waste material according to 6.24 of the Standard Specifications.

GRAND RIVER AVE. BRIDGE APPROACH
DETAIL EXPRESSWAY

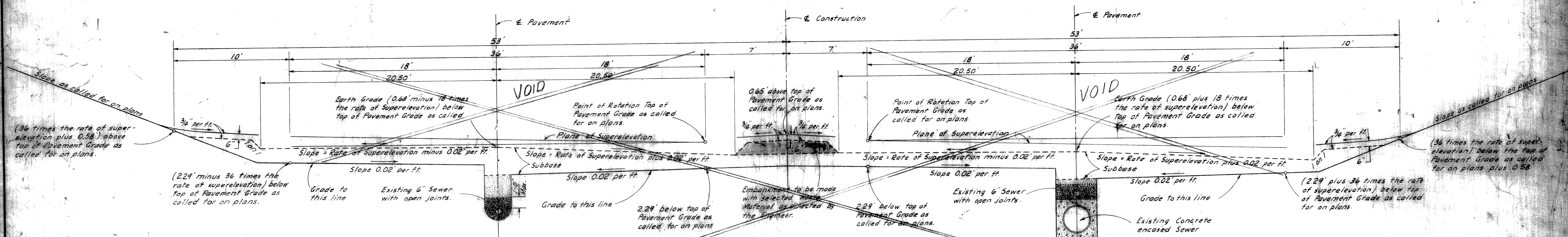
TYPICAL CROSS-SECTIONS

FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	01-391 (49)			
ROUTE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS	
M-112 82-163	WAYNE	Detroit			
FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS	



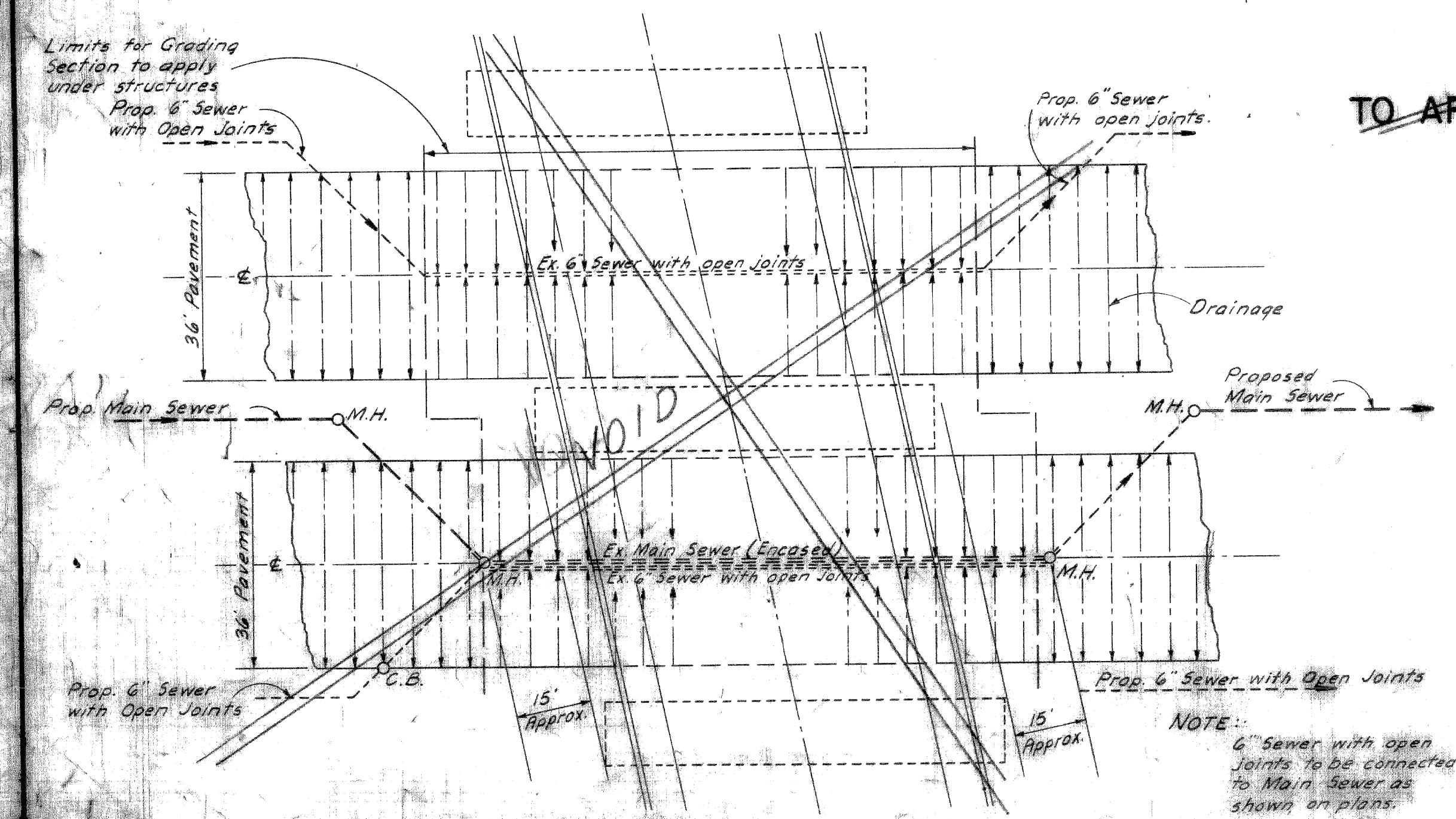
TYPICAL CROSS SECTION FOR GRADING TO APPLY UNDER STRUCTURES
SCALE 1" = 4'

FOR ACTUAL GRADING SECTIONS SEE SHEETS 54-56

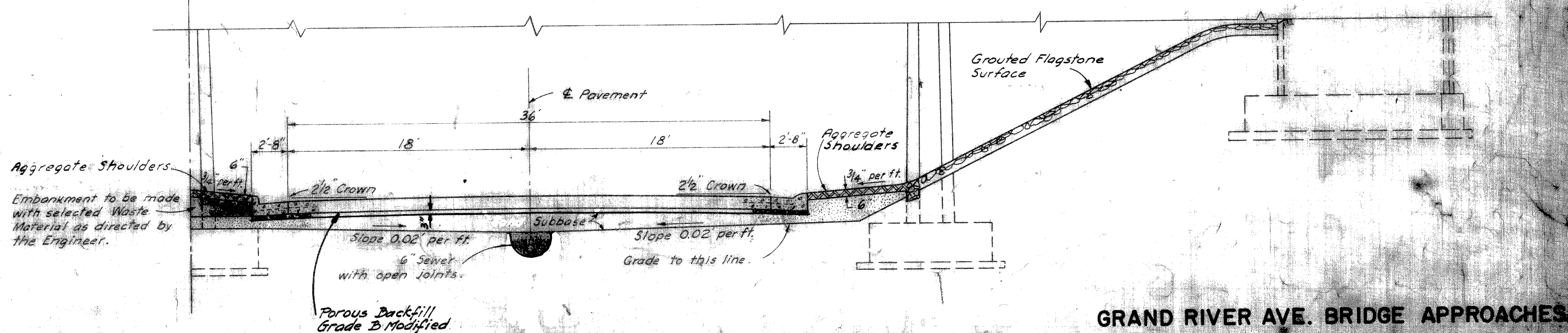


TYPICAL CROSS SECTION FOR GRADING TO APPLY UNDER STRUCTURES ON SUPERELEVATED CURVES
SCALE 1" = 4'

NOTE: For Joint Legend and Notes see Sheet No. 46



PLAN SHOWING SUB-BASE DRAINAGE UNDER STRUCTURES

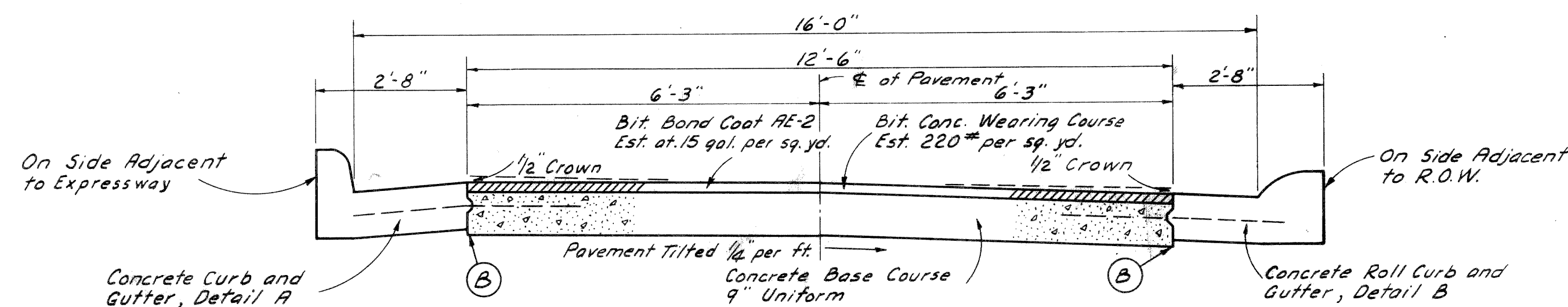


TYPICAL HALF SECTION SHOWING FINISHED ROADWAY TO APPLY UNDER STRUCTURES
SCALE 1" = 6'

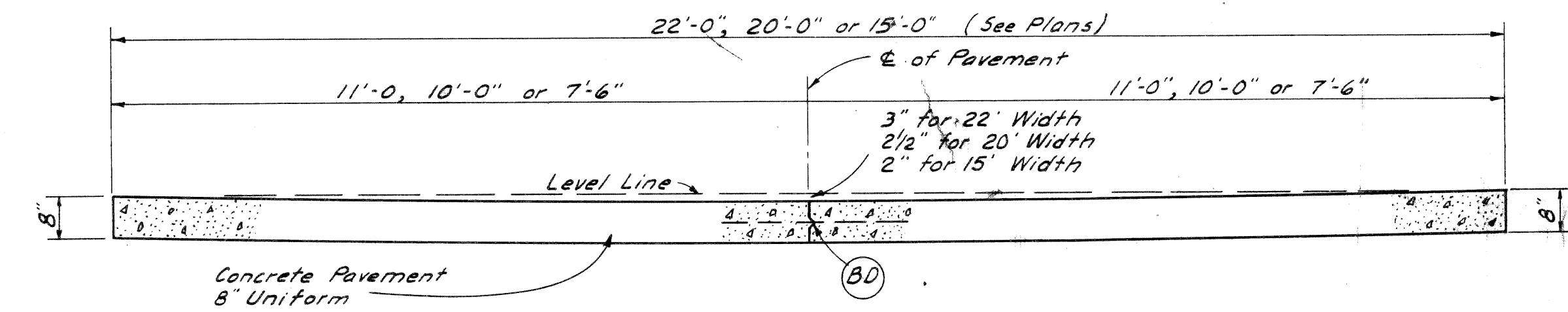
GRAND RIVER AVE. BRIDGE APPROACHES

TYPICAL CROSS-SECTIONS

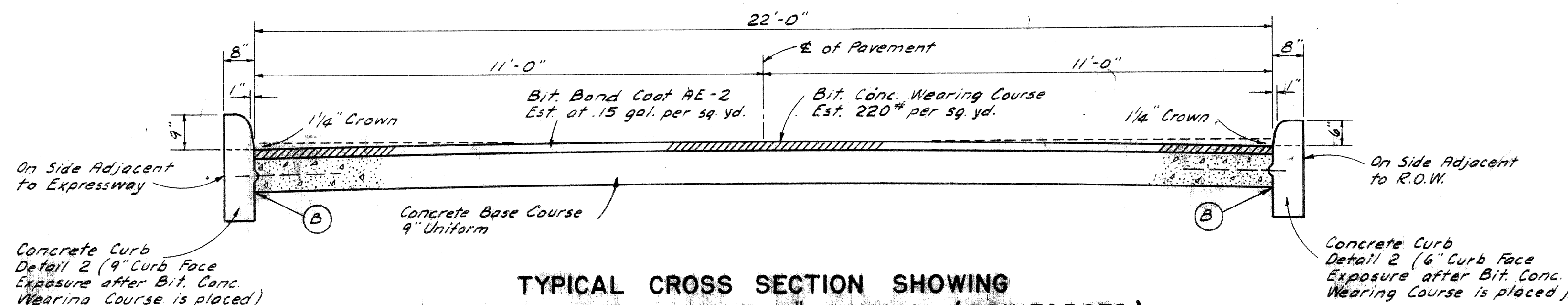
FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	11 351 (149)			
ROUTE	STATE	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112 B2-163	WAYNE	Detroit			
FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE	COUNTY	CITY	SHEET NO.	TOTAL SHEETS



TYPICAL CROSS SECTION SHOWING
CONCRETE BASE COURSE 9" UNIFORM (REINFORCED)
WITH BITUMINOUS CONCRETE (CLASS I)
TO APPLY ON 16' RAMPS - SCALE 1/2" = 1'



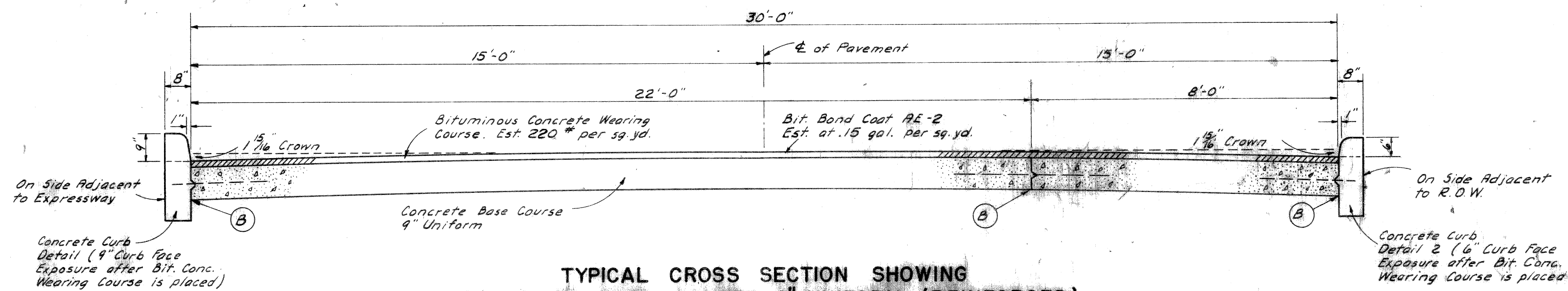
TYPICAL CROSS SECTION SHOWING
CONCRETE PAVEMENT 8" UNIFORM
TO APPLY ON ALLEYS WHERE CALLED FOR ON PLANS - SCALE 1/2" = 1'



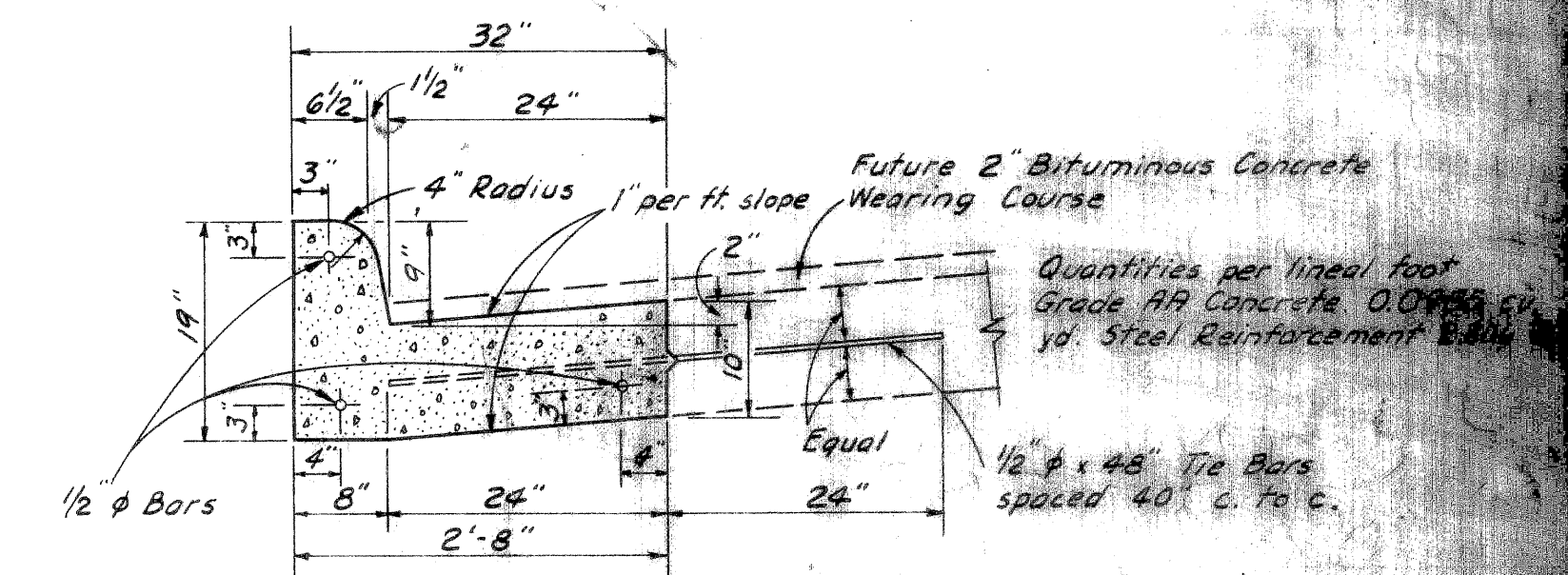
TYPICAL CROSS SECTION SHOWING
CONCRETE BASE COURSE 9" UNIFORM (REINFORCED)
WITH BITUMINOUS CONCRETE (CLASS I)
TO APPLY ON 22' SERVICE ROAD - SCALE 1/2" = 1'

- JOINT LEGEND
- B --- Longitudinal Bulkhead Construction Joint with Tie Bars. Standard E-4-A-33 D, Detail 3 or 4.
 - D --- Longitudinal Lane Tie Joint with Tie Bars. Standard E-4-A-33 D, Detail 1 or 2.
 - BD --- Optional B or D

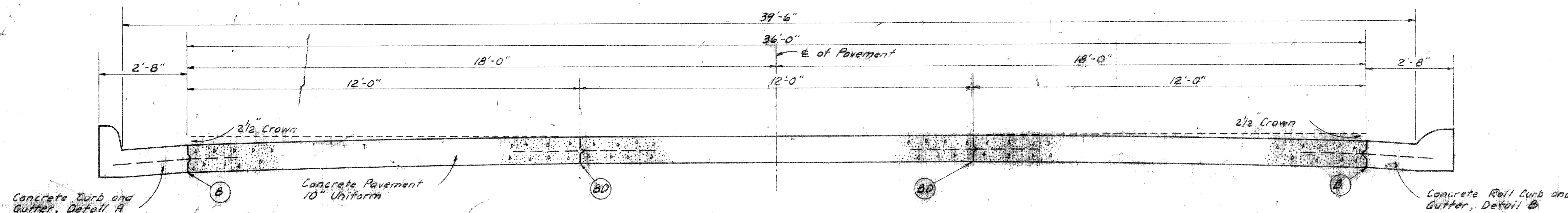
NOTE:
No poles will be allowed within the R.O.W. along this Project.
The Concrete Base Course and Concrete Pavement shall be reinforced throughout in accordance with Standard Plan E-4-A-21 F, except the Temporary road on Grand River Ave.
Class A Slopes will be required on this project according to article 2.13.03 (b) of the Standard Specifications.



TYPICAL CROSS SECTION SHOWING
CONCRETE BASE COURSE 9" UNIFORM (REINFORCED)
WITH BITUMINOUS CONCRETE (CLASS I)
TO APPLY ON 30' SERVICE ROAD - SCALE 1/2" = 1'

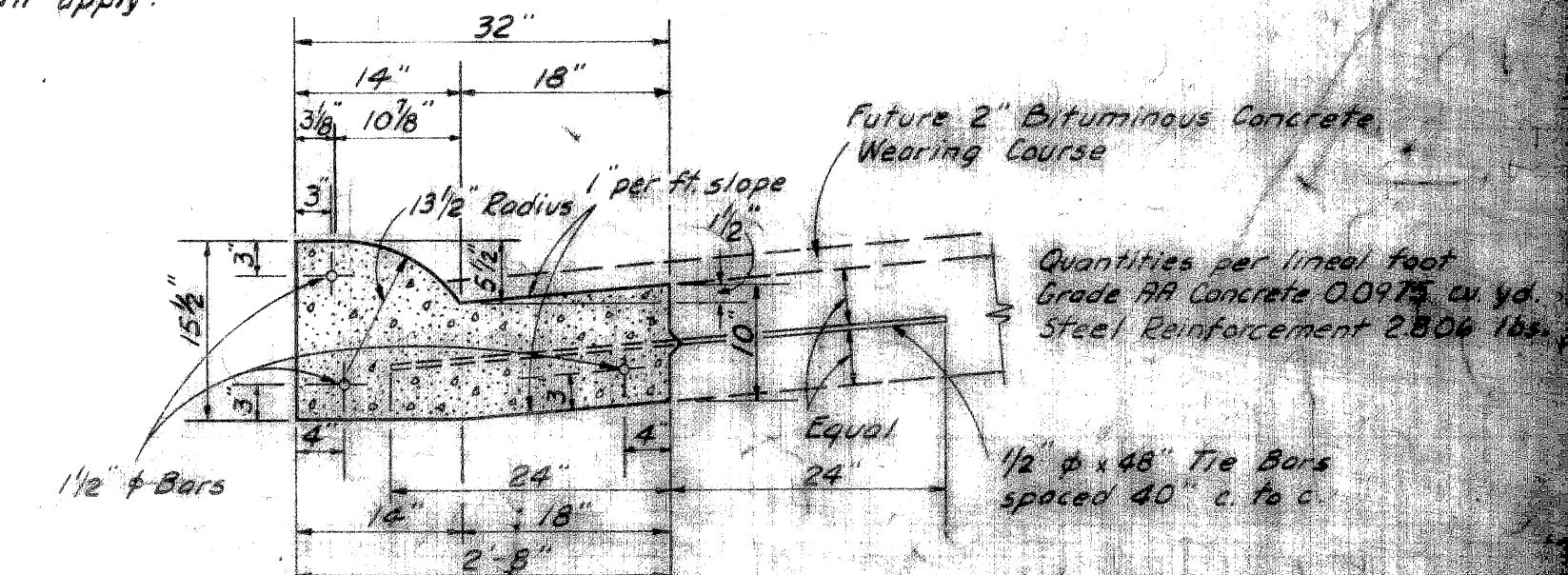


CONCRETE CURB & GUTTER, DETAIL A
SCALE 3/4" = 1'-0"



TYPICAL CROSS SECTION SHOWING
CONCRETE PAVEMENT 10" UNIFORM (REINFORCED)
TO APPLY ON EXPRESS ROADWAY - SCALE 1/2" = 1'

NOTE:
General Notes on Std. E-4-A-29 D shall apply.



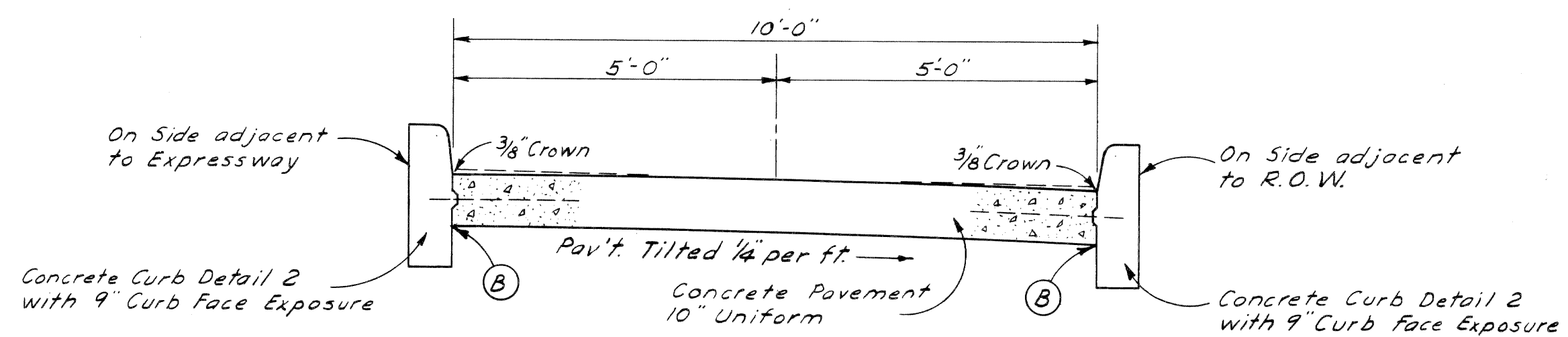
CONCRETE ROLL CURB & GUTTER, DETAIL B
SCALE 3/4" = 1'-0"

GRAND RIVER AVE. BRIDGE APPROACHES

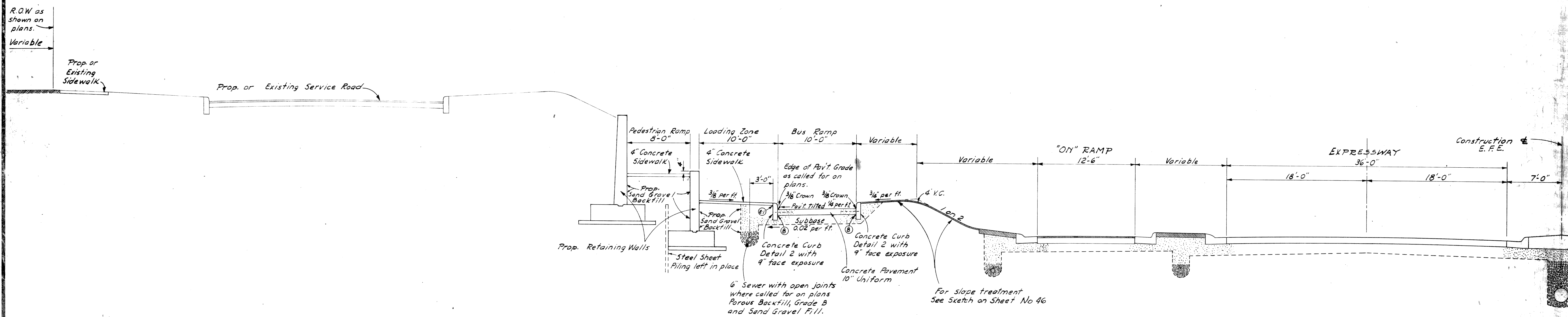
L-58-B-17 B 34 of 82-22-10

TYPICAL CROSS-SECTIONS

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	11391(49)			
ROUTE	STATE	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-163	WAYNE	Detroit		
DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	FED. DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS	



TYPICAL CROSS SECTION SHOWING
CONCRETE PAVEMENT 10" UNIFORM (REINFORCED)
TO APPLY ON BUS RAMPS - SCALE 1/2" = 1'

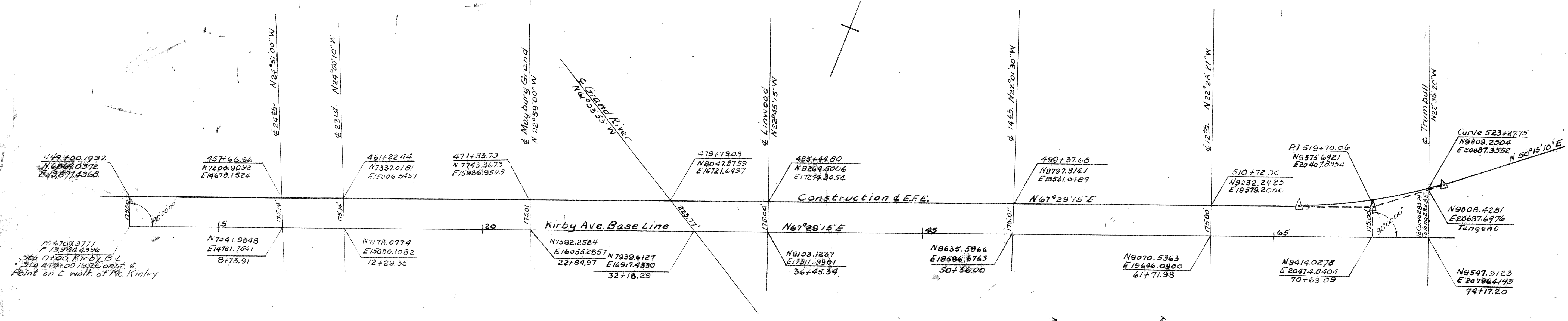


FINISHED HALF SECTION SHOWING
BUS RAMP, LOADING ZONE AND PEDESTRIAN RAMP
SCALE 1" = 6'

S.B.F. 1951

STATION EQUATION
 STA. 515+35.25 BACK
 EQUALS STA. 515+36.02 AHEAD
 LINE CHANGES 0.77 FEET

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
4	MICH.	UI 391(49)				
ROUTE	STATE	PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	MI	82-163	Wayne	Detroit		

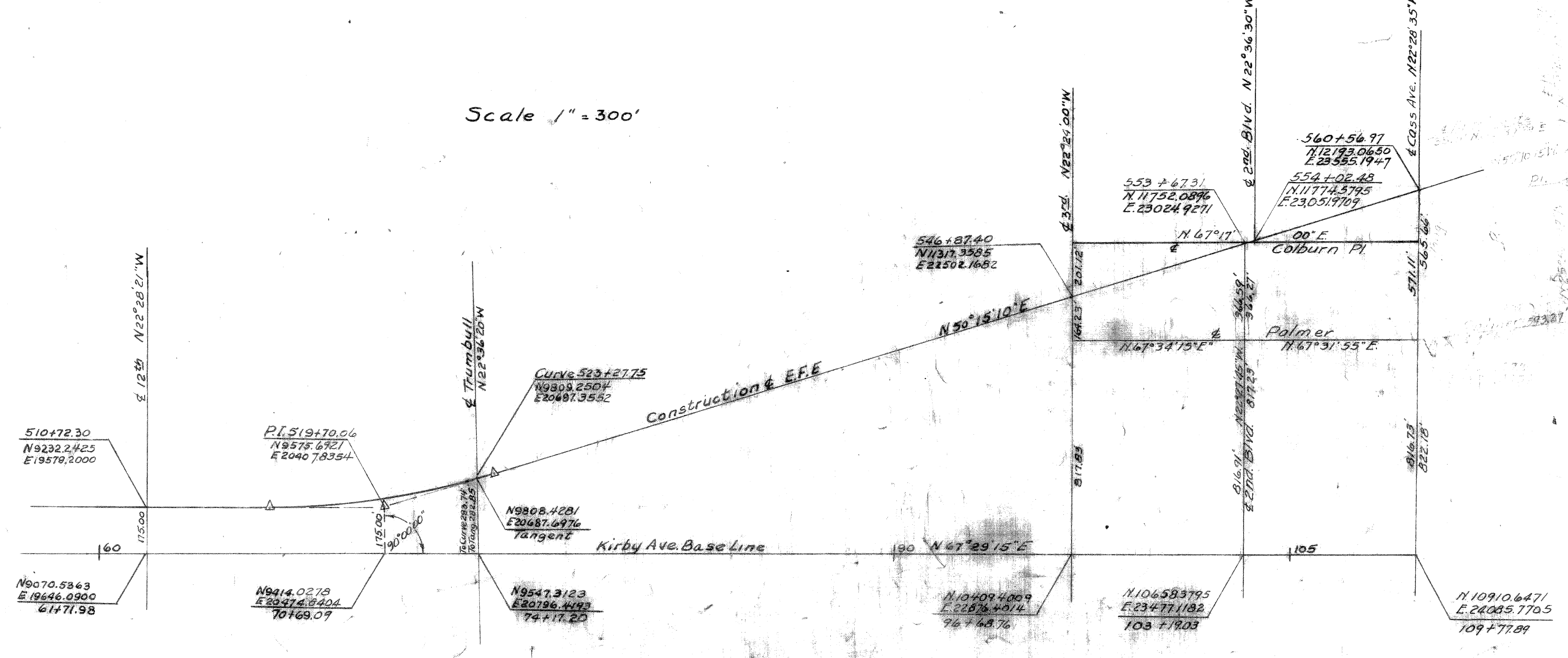


N 47° 03' 37.71"
 L 13544.4596
 Sta. 0+00 Kirby, B.L.
 Sta. 449+00 Const. &
 Point on E. walk of Mc Kinley

Scale 1" = 300'

Curve Data
 Construction & E.F.E.
 $\Delta = 17^\circ 14' 00''$ L.E.
 $D = 2^\circ 00' 00''$
 $R = 2864.93'$
 $L = 861.67'$
 $T = 434.13'$
 $E = 32.71'$
 $PC = 515+35.25$
 $PI = 519+70.06$
 $PT = 523+97.54$

To be stoned on Construction
 Curve Data
 Construction & E.F.E.
 $\Delta = 17^\circ 14' 05''$ L.E.
 $D = 2^\circ 00' 00''$
 $R = 2864.07'$
 $L = 861.50'$
 $T = 434.04'$
 $E = 32.71'$
 $PC = 515+36.02$
 $PI = 519+70.06$
 $PT = 523+97.54$



Computed H.S. Thomson 11/47
 Checked C. Noonan 11/47
 C. Noonan

L-58-B-17 GRAND RIVER AVE. BRIDGE APPRO.

Curve Data
W. Bound Bus Ramp

$\Delta = 01^{\circ} 08' 45" Lt.$
 $D = 01^{\circ} 00' 00"$
 $R = 5729.65'$
 $T = 57.29'$
 $L = 114.58'$
 $E = 0.29'$
 $PC = 465+75.02$
 $PI = 466+32.31$
 $PT = 466+89.60$

Curve Data
N. Service Road

$\Delta = 4^{\circ} 01' 34" Lt.$
 $D = 3^{\circ} 00' 00"$
 $R = 1910.08'$
 $T = 67.14'$
 $L = 134.20'$
 $E = 1.18'$
 $PC = 467+87.76$
 $PI = 468+54.90$
 $PT = 469+21.96$

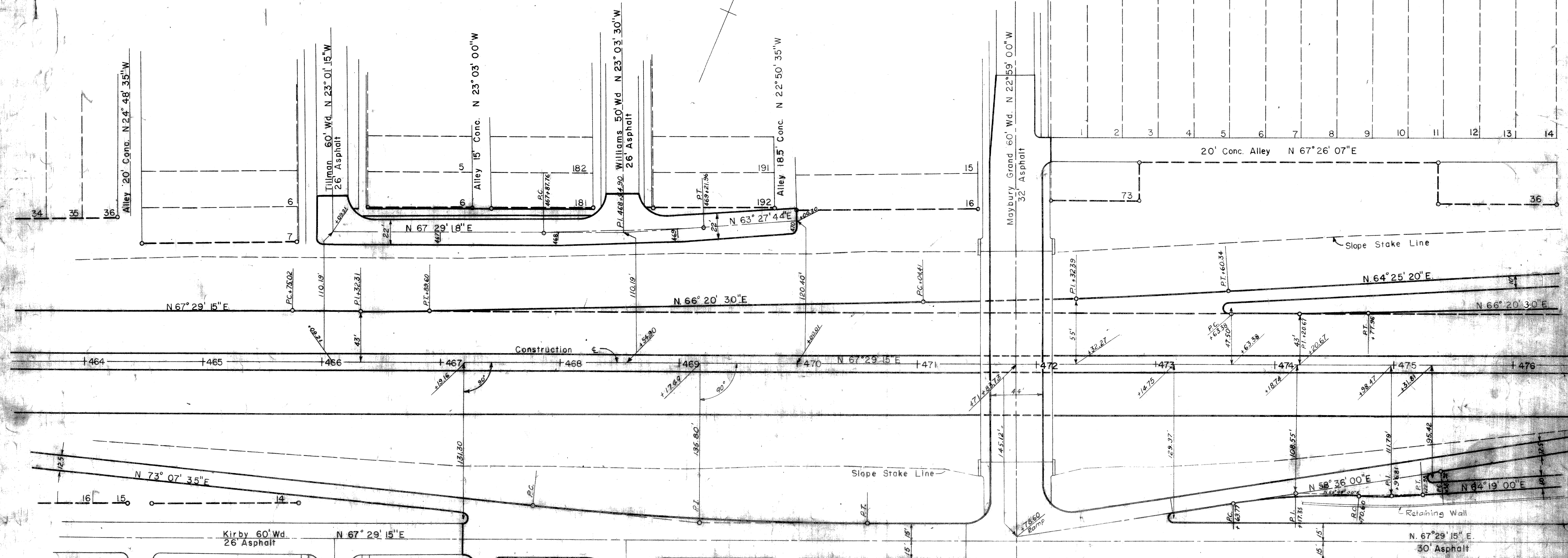
Curve Data
West Bound Bus Ramp

$\Delta = 01^{\circ} 55' 10" Lt.$
 $D = 00^{\circ} 45' 00"$
 $R = 7639.49'$
 $T = 127.98'$
 $L = 255.93'$
 $E = 1.07'$
 $PC = 471+04.41$
 $PI = 472+32.39$
 $PT = 473+60.34$

Curve Data
W. Bound "On" Ramp

$\Delta = 01^{\circ} 08' 45" Lt.$
 $D = 01^{\circ} 00' 00"$
 $R = 5729.65'$
 $T = 57.29'$
 $L = 114.58'$
 $E = 0.23'$
 $PC = 473+63.38$
 $PI = 474+20.67$
 $PT = 474+77.96$

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	UI 391(49)			
ROUTE	STATE	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-163	WAYNE	DETROIT		
FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE	COUNTY		SHEET NO.	TOTAL SHEETS



Curve Data
East Bound "Off" Ramp

$\Delta = 05^{\circ} 38' 20" Lt.$
 $D = 02^{\circ} 00' 00"$
 $R = 2864.99'$
 $T = 141.10'$
 $L = 281.94'$
 $E = 3.47'$
 $PC = 468+76.64$
 $PI = 468+17.74$
 $PT = 470+58.58$

Curve Data
East Bound Bus Ramp

$\Delta = 11^{\circ} 13' 00" Rt.$
 $D = 10^{\circ} 30' 00"$
 $R = 545.67'$
 $T = 53.58'$
 $L = 106.83'$
 $E = 2.62'$
 $PC = 473+63.77$
 $PI = 474+17.35$
 $PT = 474+70.60$

Curve Data
East Bound Bus Ramp

$\Delta = 05^{\circ} 30' 00" Lt.$
 $D = 10^{\circ} 30' 00"$
 $R = 545.67'$
 $T = 26.21'$
 $L = 52.38'$
 $E = 0.63'$
 $PRC = 474+70.60$
 $PI = 474+36.81$
 $PT = 475+22.38$

FED. ROAD	FEDERAL	STATE
M-112 82-163	UI 391 (49)	CITY
	WAYNE	TROIT

Curve Data
W. Bound On Ramp
 $\Delta = 08^{\circ} 11' 50''$ Lt.
 $D = 07^{\circ} 30' 00''$
 $R = 545.61'$
 $T = 58.65'$
 $L = 117.10'$
 $E = 2.10'$
 $PC = 479 + 62.10$
 $PI = 480 + 120.15$
 $PT = 480 + 74.20$

Curve Data
W. Bound Bus Ramp
 $\Delta = 05^{\circ} 00' 00''$ Rt.
 $D = 10^{\circ} 30' 00''$
 $R = 545.61'$
 $T = 23.83'$
 $L = 47.62'$
 $E = 0.52'$
 $PC = 482 + 40.08$
 $PI = 482 + 63.84$
 $PT = 482 + 87.64$

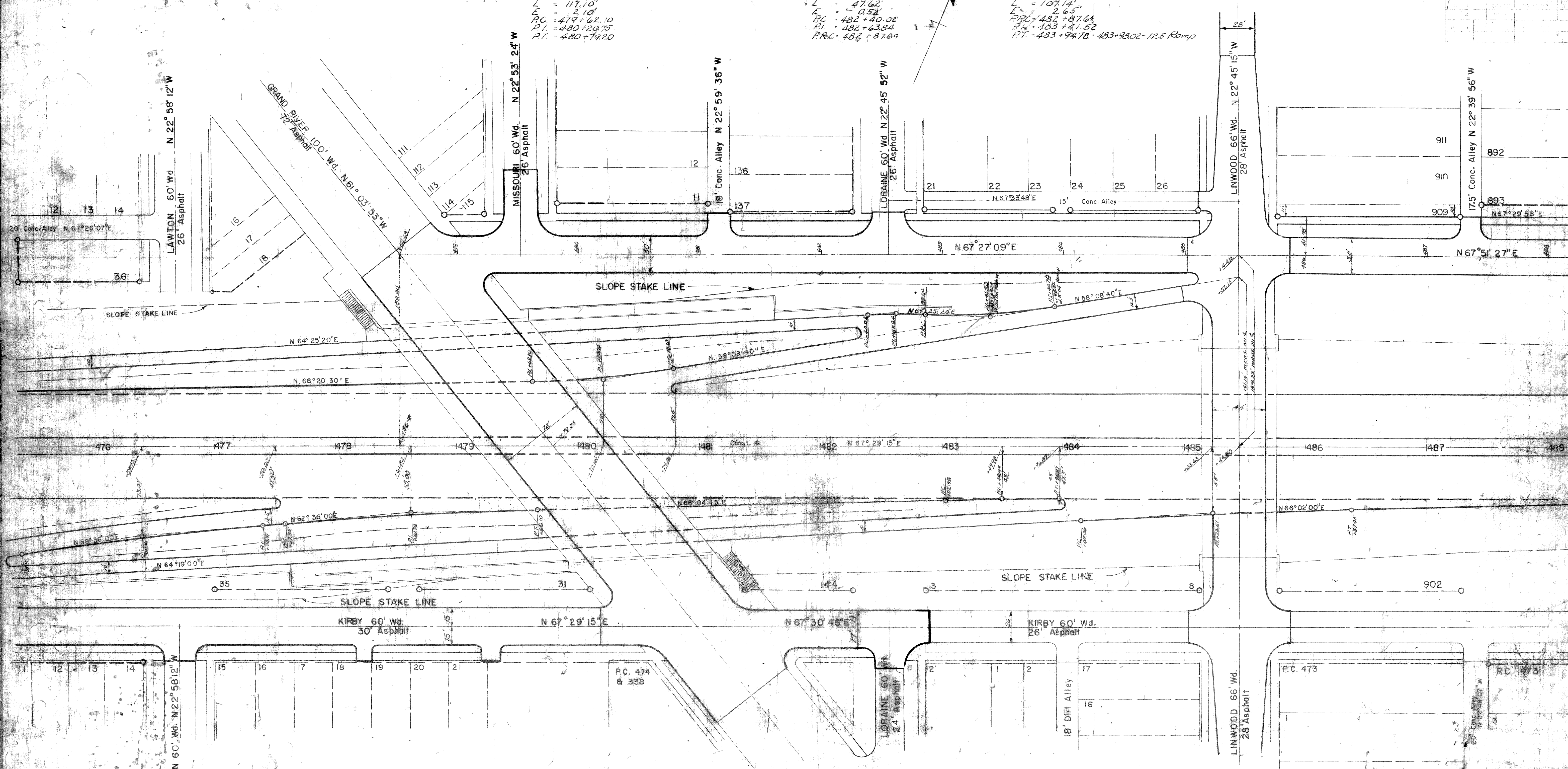
Curve Data
W. Bound Bus Ramp
 $\Delta = 11^{\circ} 16' 40''$ Lt.
 $D = 10^{\circ} 30' 00''$
 $R = 545.61'$
 $T = 53.88'$
 $L = 107.14'$
 $E = 2.65'$
 $PC = 482 + 137.64$
 $PI = 483 + 141.52$
 $PT = 483 + 94.78 - 483 + 94.02 - 12.5$ Ramp

Curve Data
East Bound On Ramp
 $\Delta = 04^{\circ} 08' 00''$ Rt.
 $D = 02^{\circ} 00' 00''$
 $R = 280.43'$
 $T = 108.86'$
 $L = 200.00'$
 $E = 1.75'$
 $PC = 475 + 138.71$
 $PI = 476 + 33.16$
 $PT = 477 + 33.11$

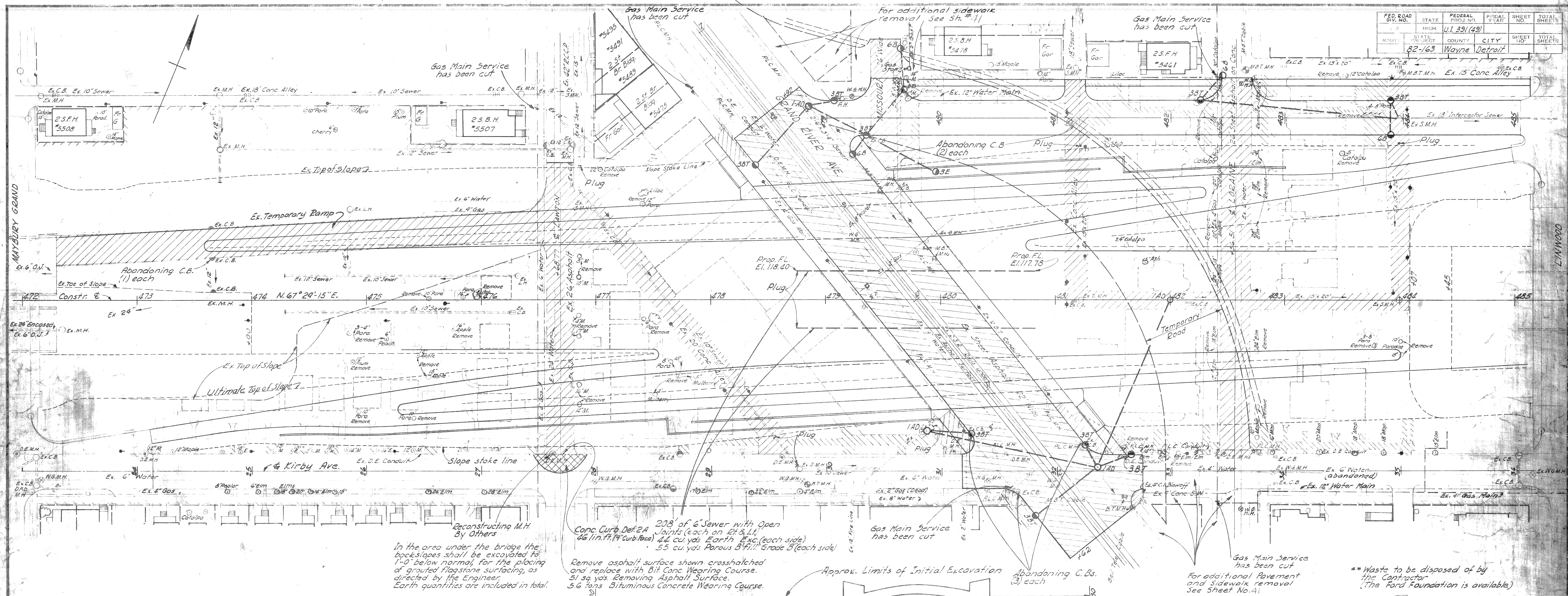
Curve Data
East Bound On Ramp
 $\Delta = 03^{\circ} 28' 25''$ Rt.
 $D = 01^{\circ} 40' 00''$
 $R = 343.73'$
 $T = 104.41'$
 $L = 203.75'$
 $E = 1.88'$
 $PC = 477 + 57.35$
 $PI = 478 + 61.76$
 $PT = 478 + 86.19$

Curve Data
East Bound On Ramp
 $\Delta = 01^{\circ} 24' 50''$ Rt.
 $D = 01^{\circ} 30' 00''$
 $R = 3819.83'$
 $T = 46.95'$
 $L = 93.91'$
 $E = 0.27'$
 $PC = 485 + 32.98$
 $PI = 485 + 39.93$
 $PT = 485 + 74.87$

Curve Data
E. Bound Bus Ramp
 $\Delta = 01^{\circ} 43' 00''$ Rt.
 $D = 00^{\circ} 44' 00''$
 $R = 7639.49'$
 $T = 114.45'$
 $L = 228.89'$
 $E = 0.84'$
 $PC = 484 + 09.06$
 $PI = 485 + 23.51$
 $PT = 486 + 37.95$



FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
82-163	MI	UI 391(49)		10	10
COUNTY	CITY				
Wayne	Detroit				

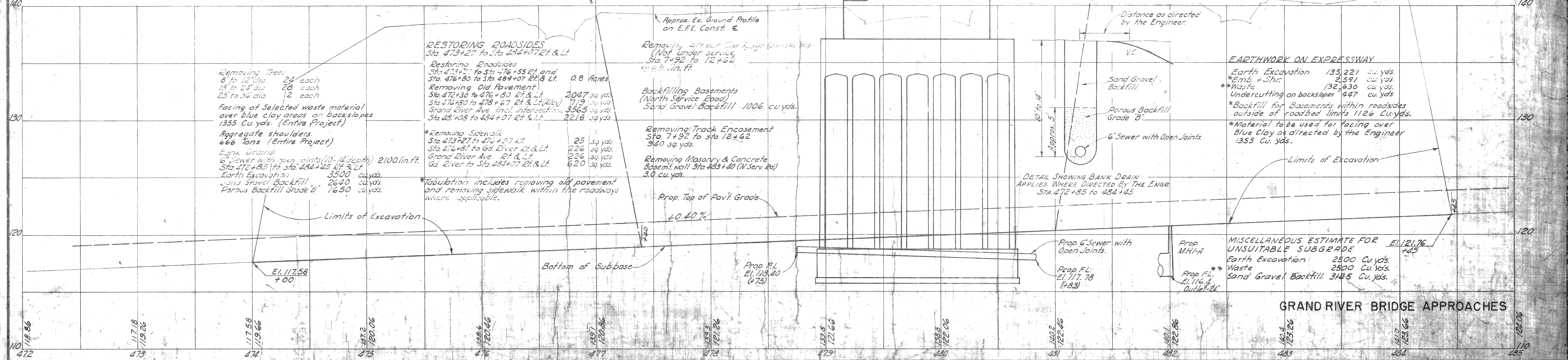


In the area under the bridge the back-slopes shall be excavated to 1'-0" below normal for the placing of grouted flagstone surfacing, as directed by the Engineer. Earth quantities are included in total.

Remove asphalt surface shown crosshatched and replace with Bit Conc Wearing Course. 51 sq. yds. Removing Asphalt Surface. 5.6 tons Bituminous Concrete Wearing Course.

Approx. Limits of Initial Excavation

**Waste to be disposed of by the Contractor (The Ford Foundation is available)



Removing Trees:
8" to 12" dia. 24 each
13" to 24" dia. 28 each
25" to 36" dia. 12 each

Facing of Selected waste material over blue clay areas on back-slopes 1355 Cu. yds. (Entire Project)

Aggregate shoulders 666 tons (Entire Project)

Bank Gravel 6" Sewer with open joints (10'-14" depth) 2100 lin. ft. Sta. 472+85 to Sta. 484+45 El. 2 & Lt.

Earth Excavation 3500 cu. yds.
Sand Gravel Backfill 2640 cu. yds.
Porous Backfill Grade B 1650 cu. yds.

RESTORING ROADSIDES
Sta. 473+27 to Sta. 484+07 El. & Lt.

Restoring Road-sides Sta. 476+80 to Sta. 484+07 El. & Lt. 0.8 Acres

Removing Old Pavement Sta. 472+30 to 476+80 El. & Lt. 2047 sq. yds.
Sta. 476+80 to 478+67 El. & Lt. (Wiley) 1719 sq. yds.
Grand River Ave. Int. Intersection Sta. 481+08 to 484+07 El. & Lt. 2216 sq. yds.

*Removing Sidewalk Sta. 473+27 to 476+57 El. & Lt. 25 sq. yds.
Sta. 476+81 to Gal. River El. & Lt. 226 sq. yds.
Grand River Ave. El. & Lt. 226 sq. yds.
Gal. River to Sta. 484+07 El. & Lt. 620 sq. yds.

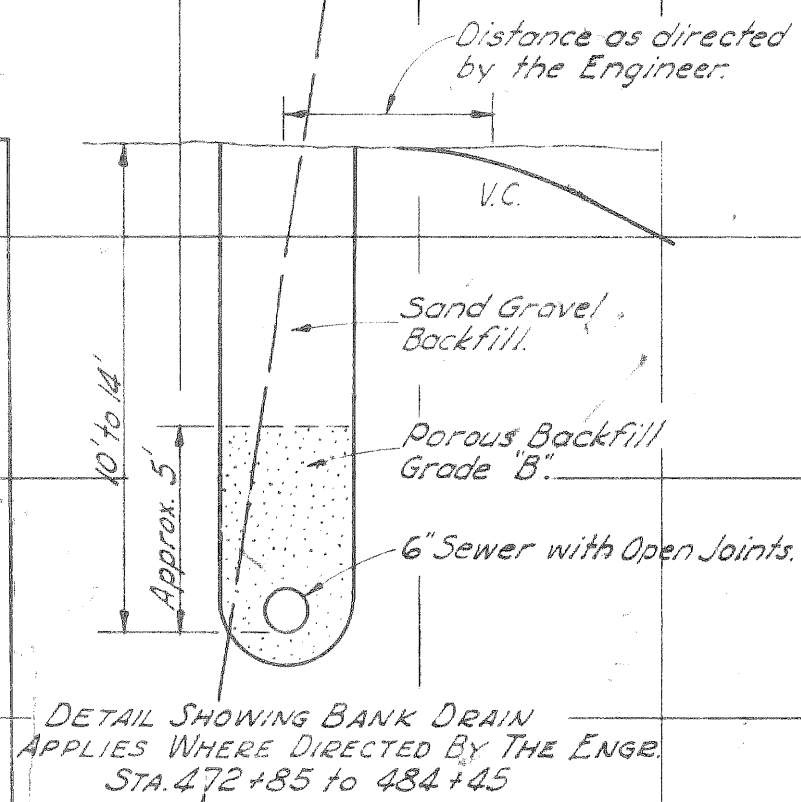
*Tabulation includes removing old pavement and removing sidewalk within the roadways where applicable.

Removing Street Car Lays (Entire Proj.) (Not under service) Sta. 7+92 to 12+62 1025 lin. ft.

Backfilling Basements (North Service Road) Sand Gravel Backfill 1006 cu. yds.

Removing Track Enclosure Sta. 7+92 to Sta. 12+62 340 sq. yds.

Removing Masonry & Concrete Basem. wall Sta. 483+40 (N. Serv. Rd) 3.0 cu. yds.



EARTHWORK ON EXPRESSWAY

Earth Excavation 135,221 cu. yds.
*Emb. + Shr. 2,591 cu. yds.
*Waste 132,630 cu. yds.
Undercutting on back-slopes 447 cu. yds.

*Backfill for Basements within roadsides outside of roadbed limits 1126 Cu. yds.

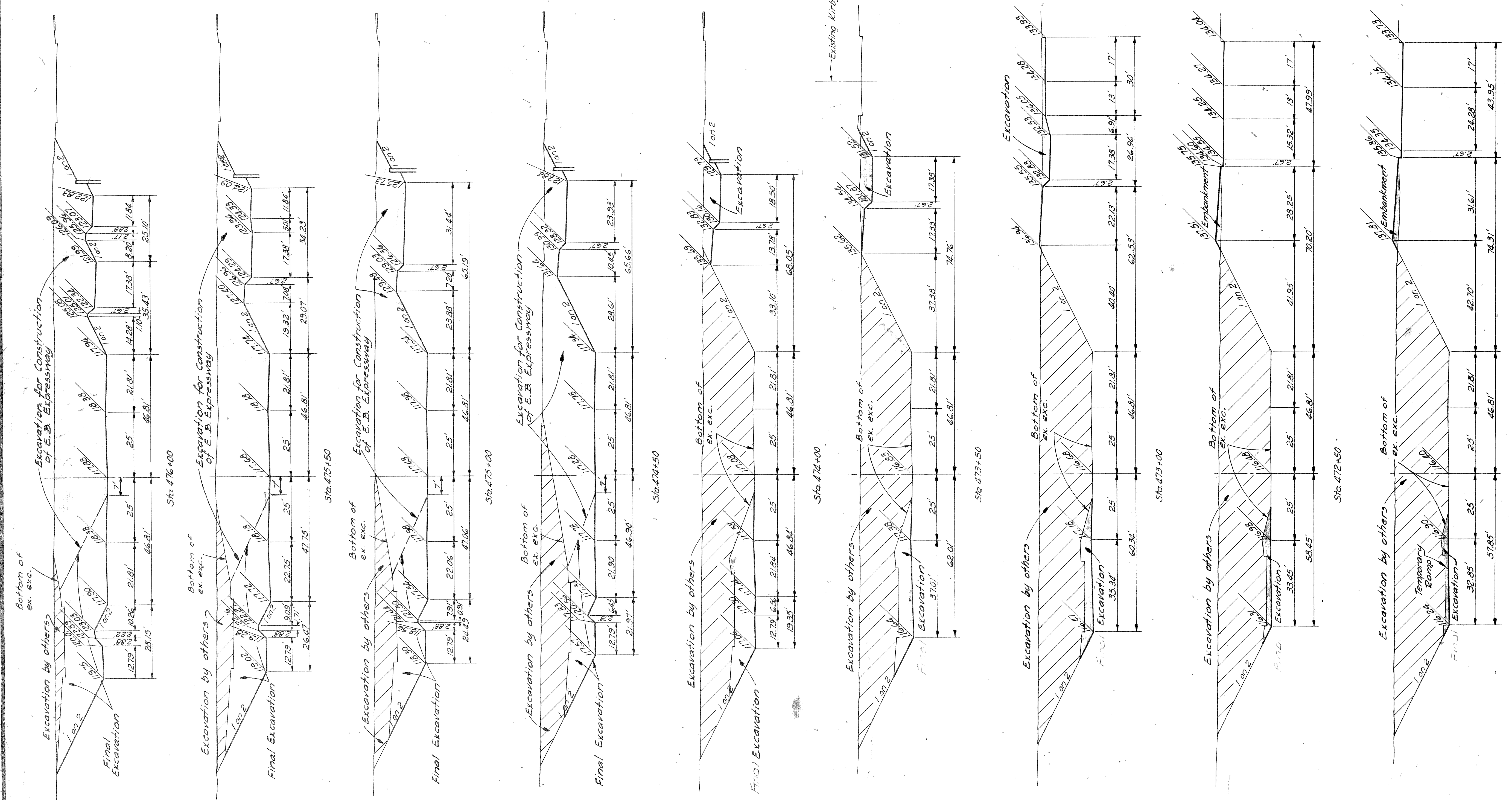
*Material to be used for facing over Blue Clay as directed by the Engineer 1355 Cu. yds.

MISCELLANEOUS ESTIMATE FOR EL. 121.76 UNSUITABLE SUBGRADE

Earth Excavation 2500 Cu. yds.
Waste 2500 Cu. yds.
Sand Gravel Backfill 3125 Cu. yds.

GRAND RIVER BRIDGE APPROACHES

FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	U139(29)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-163	Wayne	Detroit			
DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS

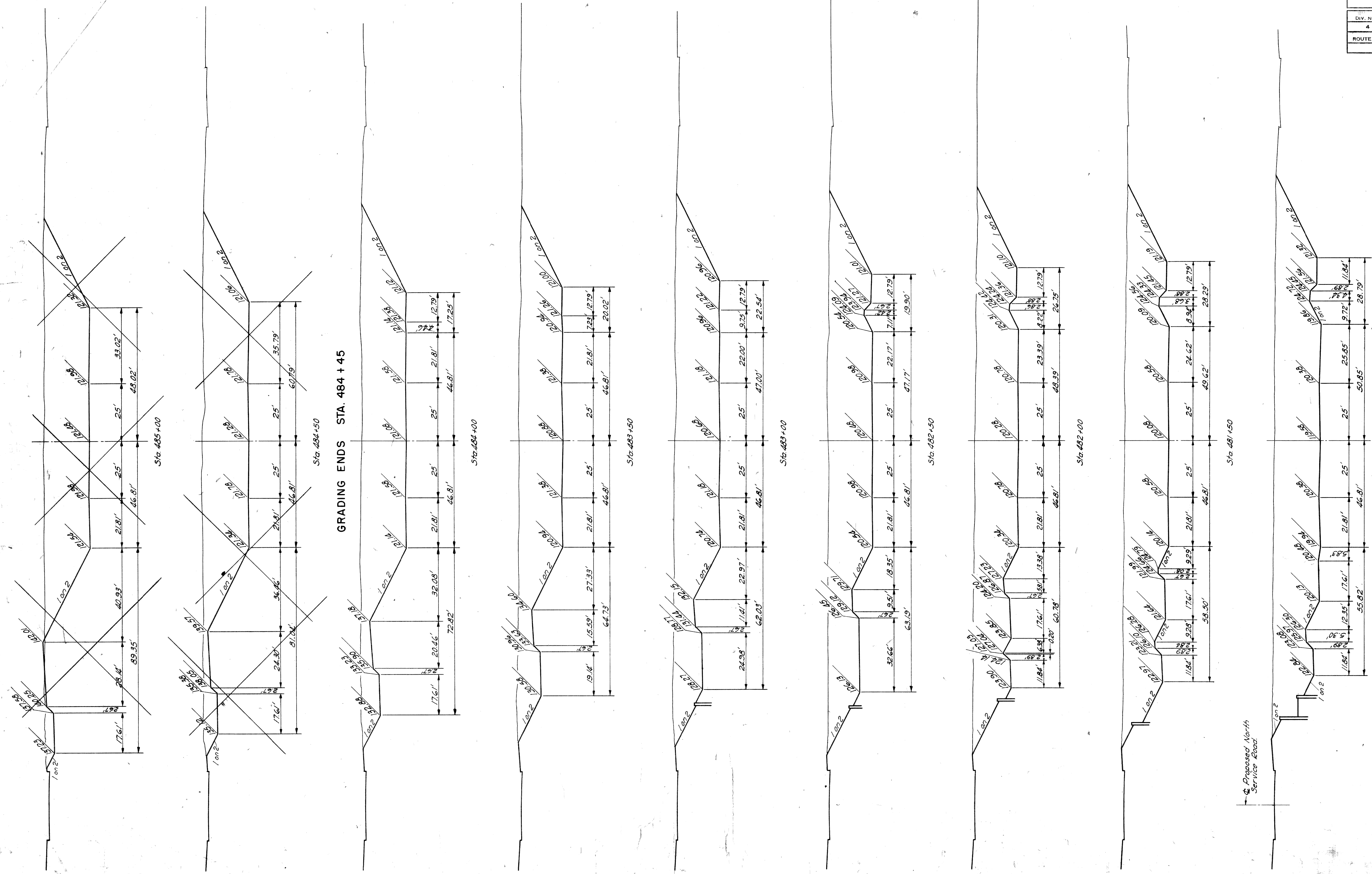


**SECTIONS FOR GRADING
TO APPLY
ALONG EDEL FORD EXPRESSWAY**

STA. 472+30 TO STA. 476+00
SCALE 1"=20'

**GRAND RIVER AVE. BRIDGE APPROACHES
L-58-B-17**

FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	U.1.39(49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-163	Wayne	Detroit			
DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS



SECTIONS FOR GRADING TO APPLY
ALONG EDEL FORD EXPRESSWAY
 STA. 481+00 TO STA. 484+00
 SCALE 1"=20'

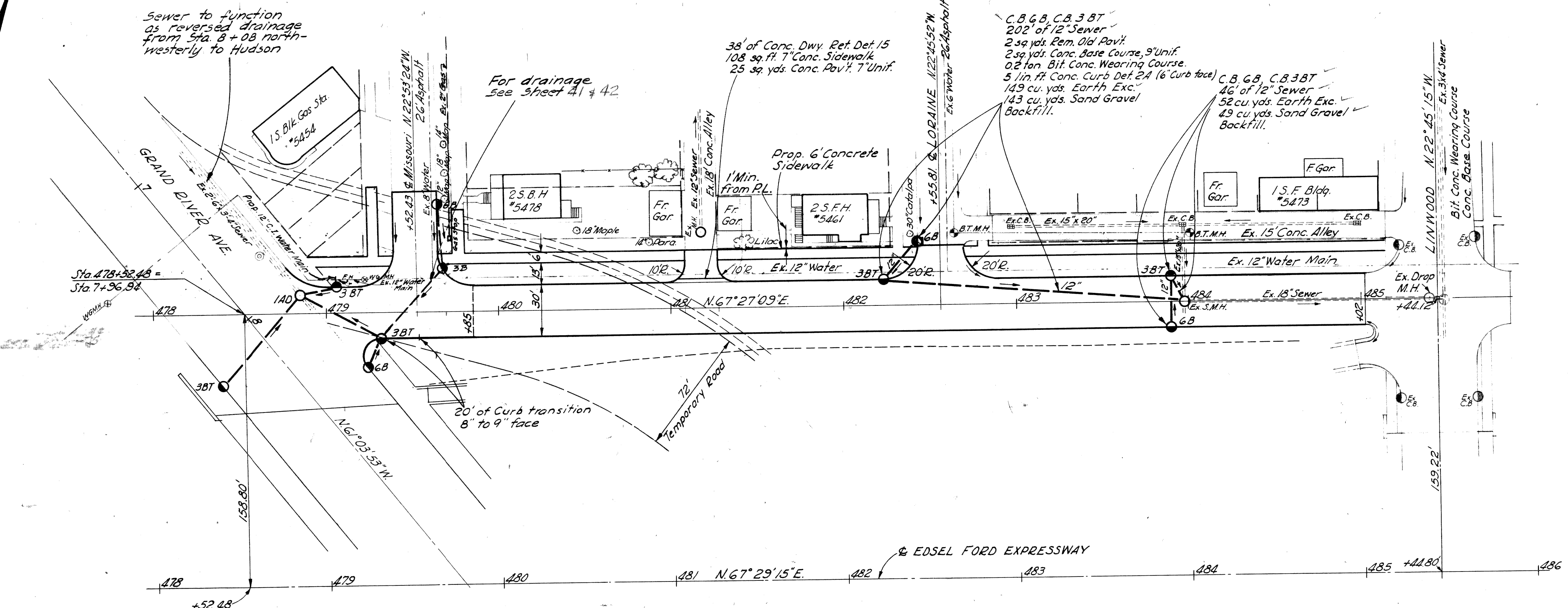
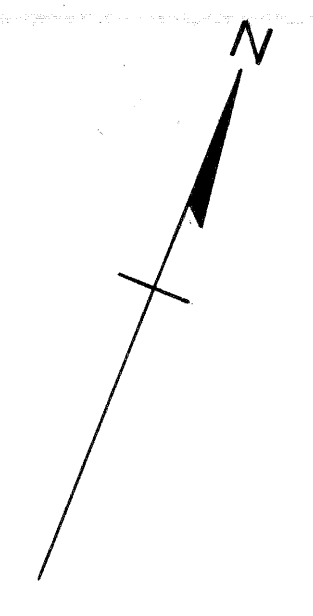
GRAND RIVER AVE. BRIDGE APPROACHES
 L-58-B-17

FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	U-39(49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-163		Wayne	Detroit		

FED. ROAD DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS

OPERATION	DATE	BY
PRELIMINARY P.L. W. CHECKED		
FINAL DESIGN CHECKED		
FINAL P.L. W. CHECK		
QUANTITIES CHECKED		
ISSUED		

OPERATION	DATE	BY
PLAN PLOTTED	1-52	P. Water
PROFILE PLOTTED	1-52	P. Water
PRELIMINARY P.L. W. CHECKED		
FINAL P.L. W. CHECK		
QUANTITIES CHECKED		
FEDERAL INSPECTION		



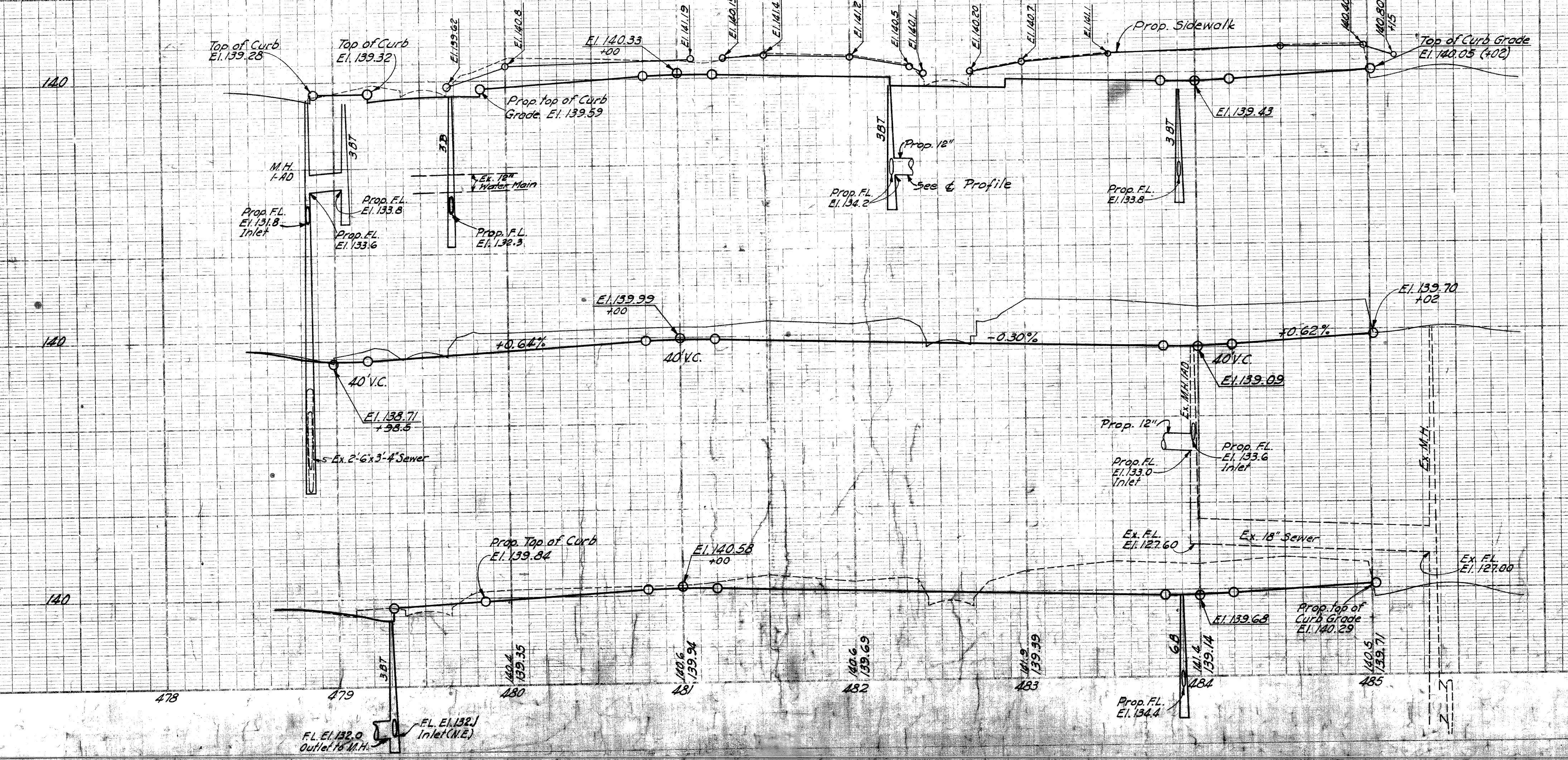
1' Concrete Sidewalk
Sta. 479+85 to 485+14.11
2910 sq. ft.

Fine Grading and Cleanup
Sta. 479+00 to 485+02
6.0 stas.

Ex. Ground Profile 25' Lt.
Proposed Top of Curb
Proposed Sidewalk Grade

Ex. Ground Profile
Proposed Top of Pavt Grade

Ex. Ground Profile 25' Rt.
Proposed Top of Curb



Earthwork for N. Service Road
Sta. 478+98.5 to 485+02

Earth Excavation 1892 cu yds.
*Waste 1892 cu yds.

*Waste to be disposed of by the Contractor
(Ford Foundation is available)

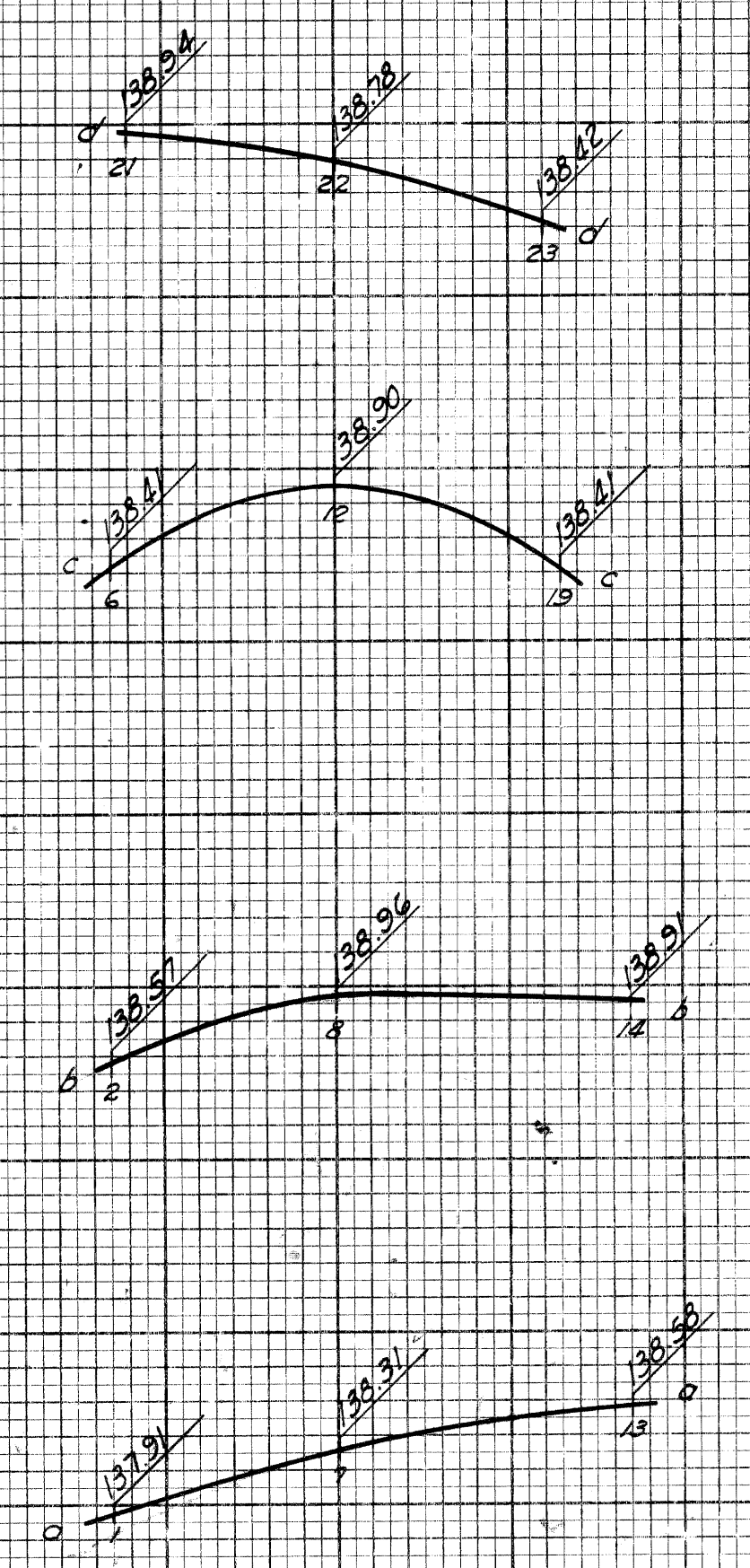
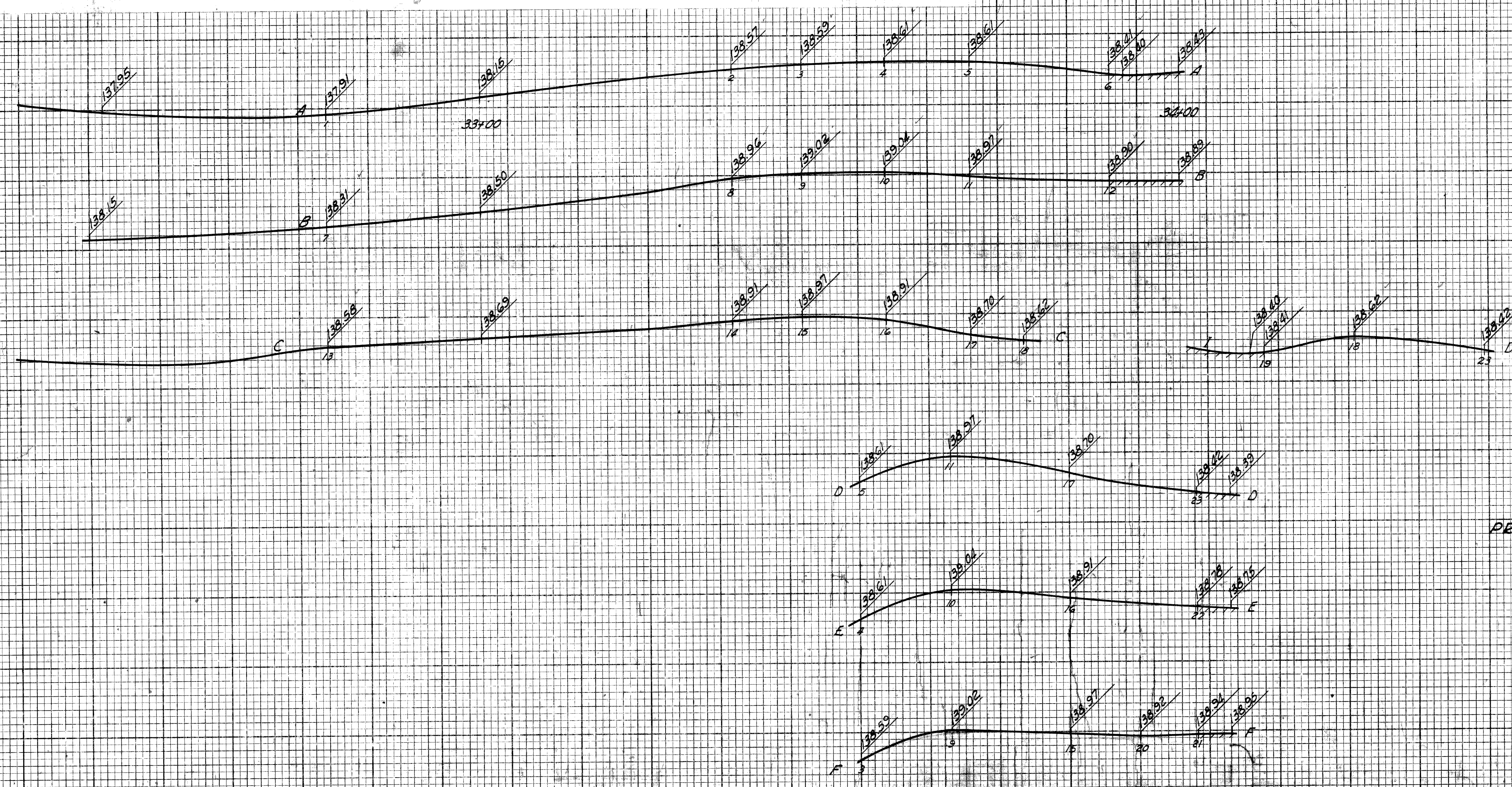
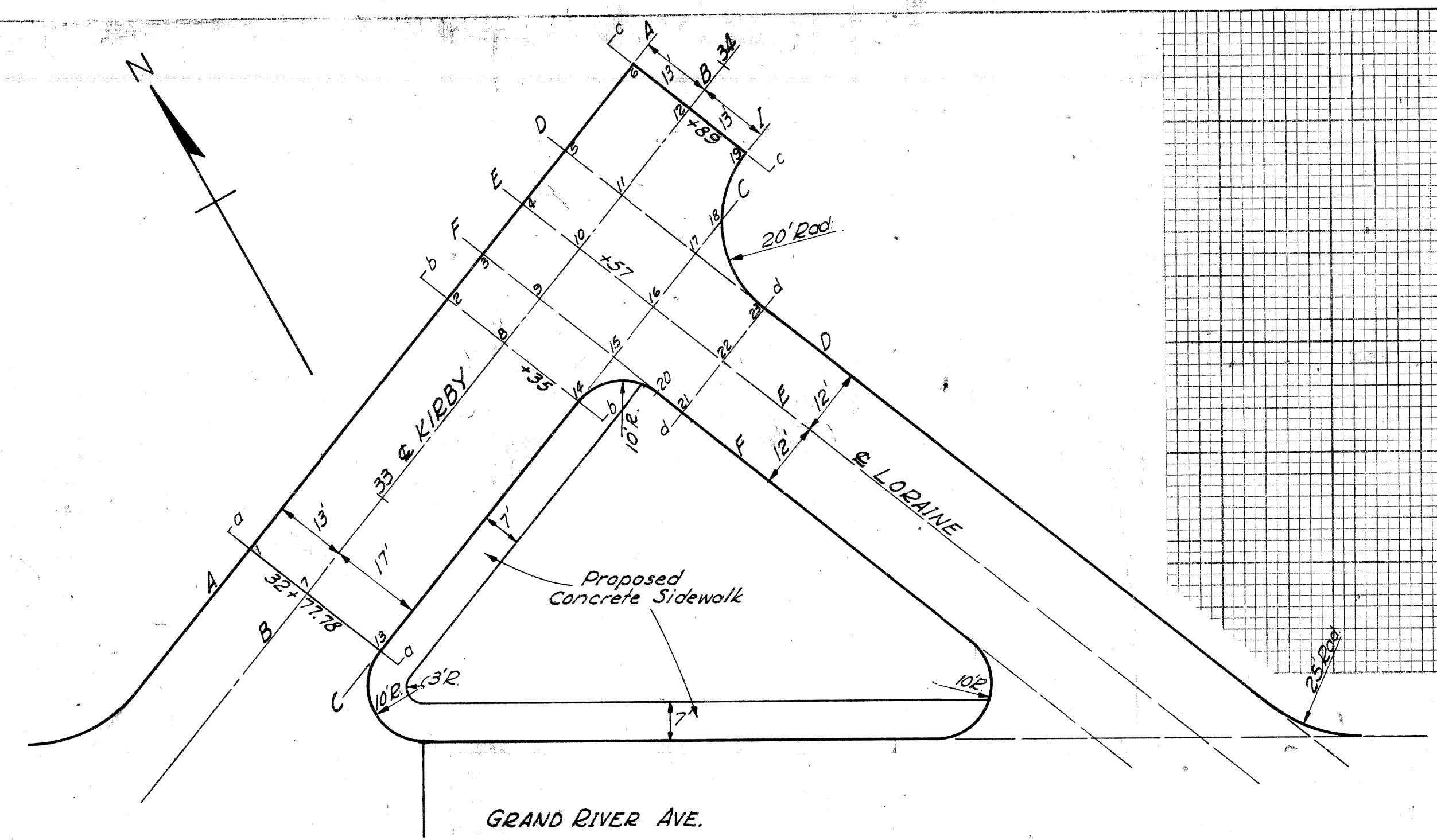
NORTH SERVICE ROAD
GRAND RIVER BRIDGE APPROACHES
L-58-B-17
B34 of 82-22-10

FILE NO.	DATE	BY	REVISION
82-163	U-39(49)		

FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	11139(49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-163	Wayne	Detroit			

DATE	BY
7-51	2/10/52
NO.	NO.
59100	59100

DATE	BY
7-51	2/10/52
NO.	NO.
59100	59100

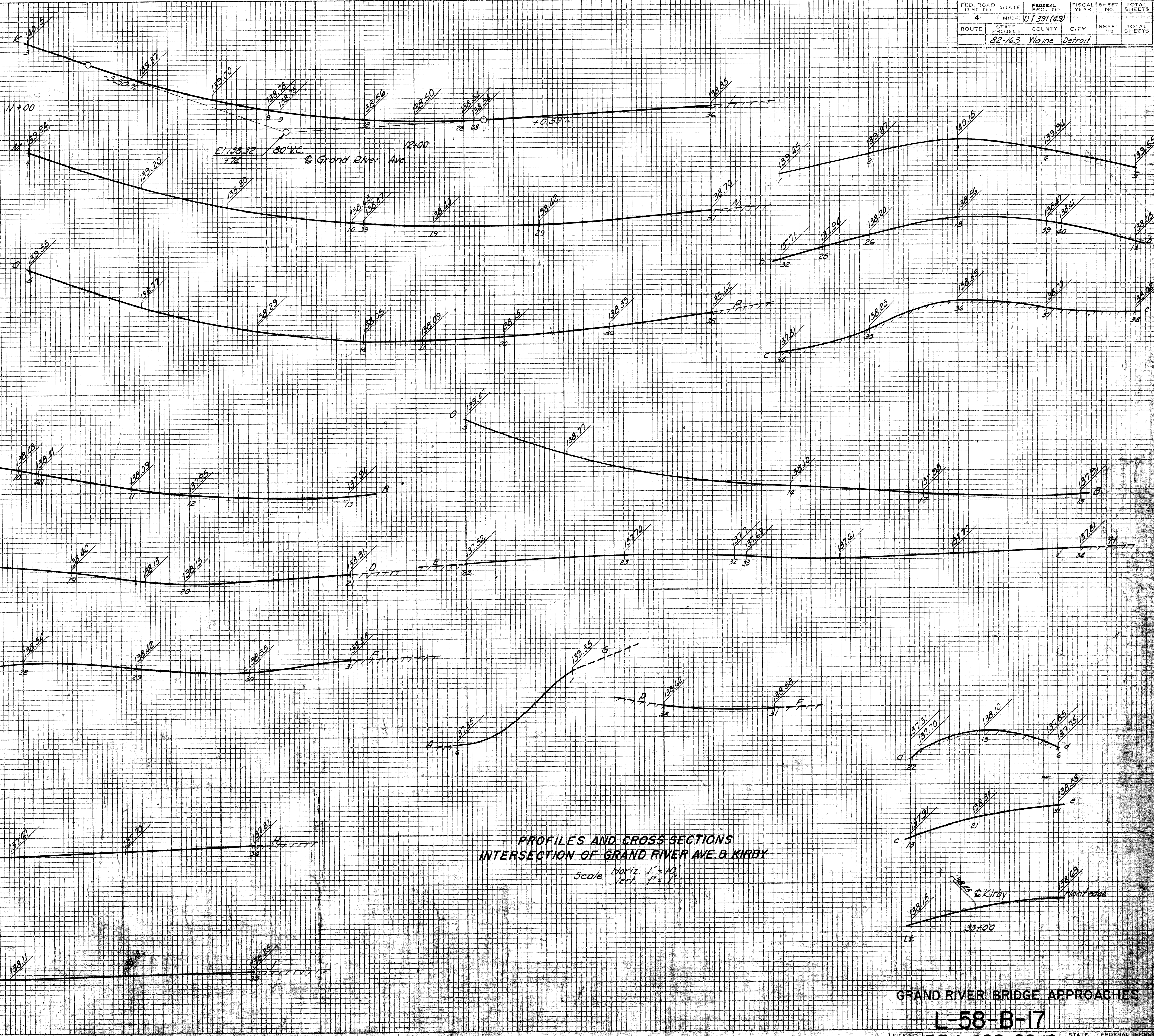
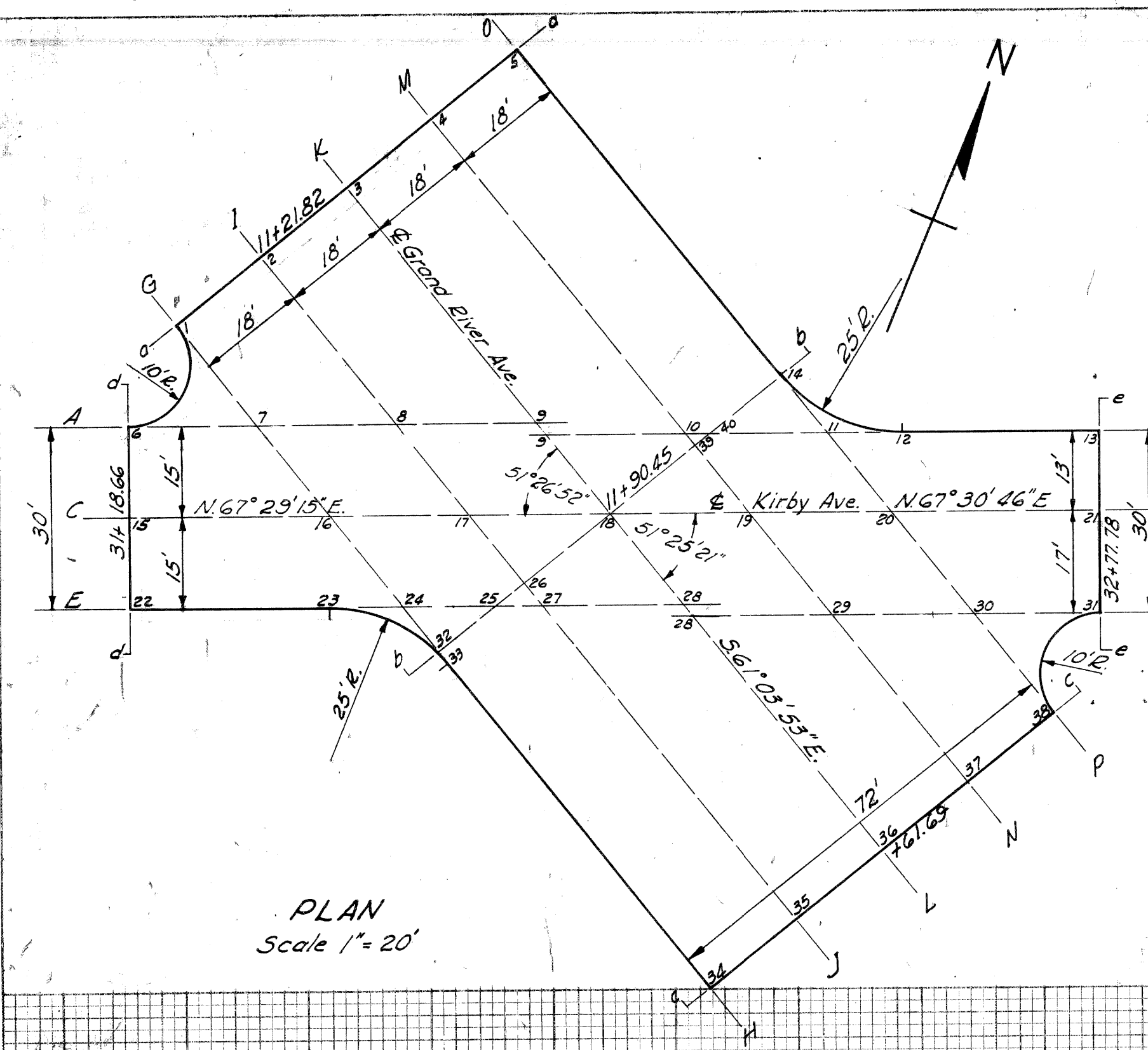


GRAND RIVER BRIDGE APPROACHES
L-58-B-17
B34 of 82-22-10

FED. ROAD DIST. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	U.I. 391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-163	Wayne	Detroit			

FINAL SURVEY	DATE
SURVEYED	
PLOTTED	
TEMPERATURE	
NOTE BOOK	
NO.	

ORIGINAL SURVEY	DATE
PLOTTED	
TEMPERATURE	
NOTE BOOK	
NO.	

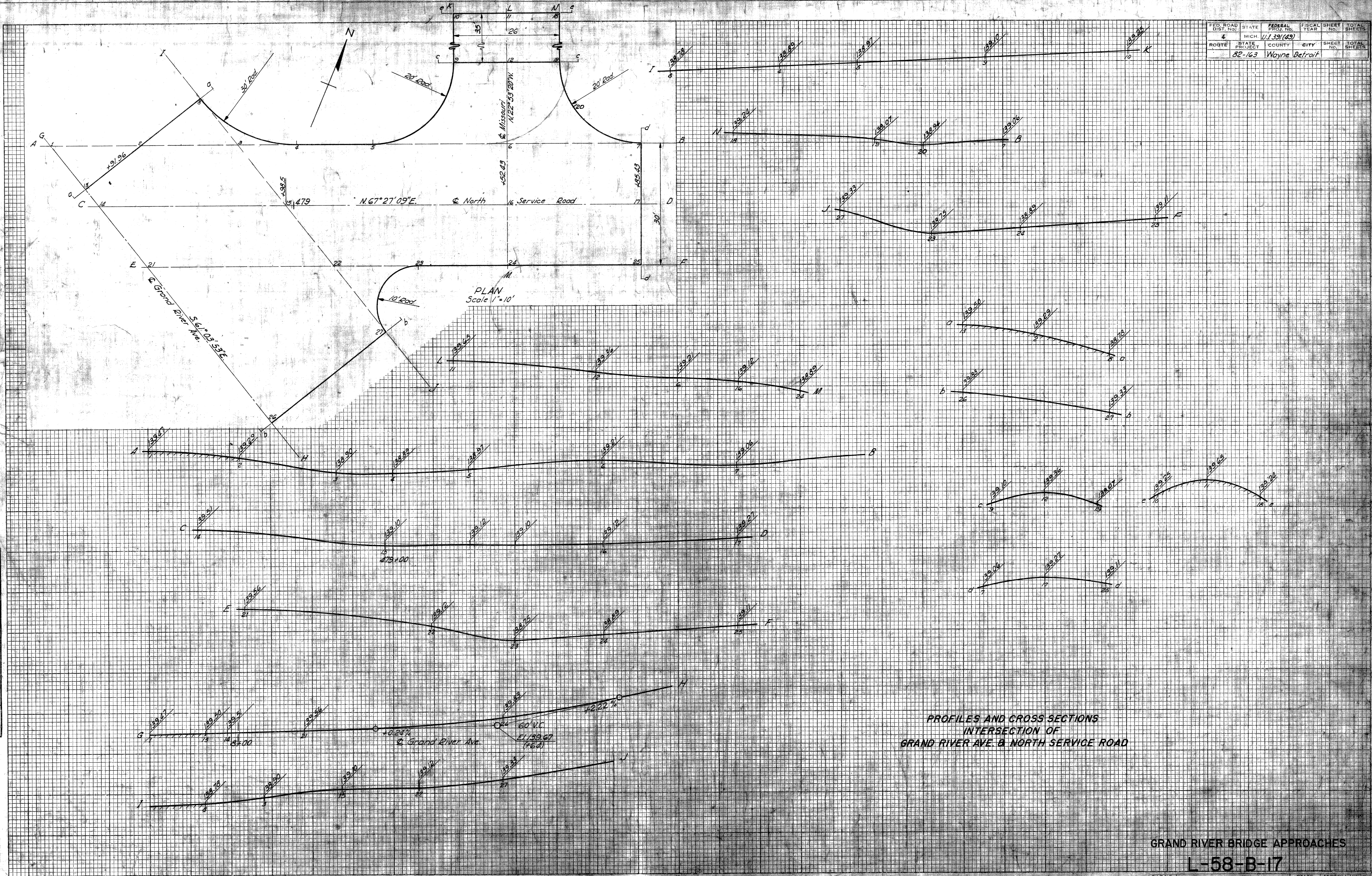


PROFILES AND CROSS SECTIONS
INTERSECTION OF GRAND RIVER AVE. & KIRBY
Scale Horiz 1" = 10'
Vert 1" = 1'

FED. ROAD DIST. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	11139(49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-163	Wayne	Detroit			

DATE	BY
7/52	D. Kozlari
NO.	39102
NO.	39102

DATE	BY
7-52	D. Kozlari
NO.	39102
NO.	39102



GRAND RIVER BRIDGE APPROACHES
L-58-B-17
B34 of 82-22-10

CULIC DATA
 Bus Ramp W. Bound
 01'00" 15'
 3729.65
 3729.65
 174.58
 0.23
 465+1501
 466+3231
 468+3960

BM 210 Elev 137.71
 Arrow on Fire Hydrant at
 S.W. Corner of Williams Ave
 and Kirby Ave

BM 210 Elev 137.71
 Arrow on Fire Hydrant
 N.E. Corner of Williams Ave
 and Kirby Ave

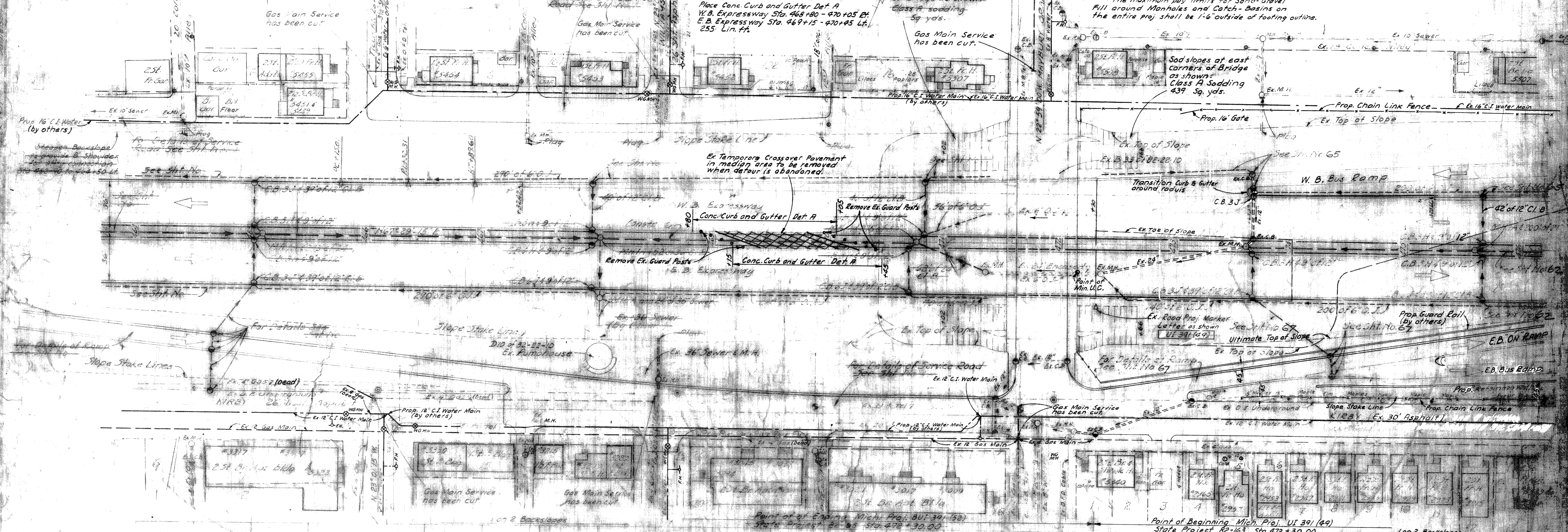
Sta. 469+00 to 471+53 21.5 LF
 1470 Lin. Ft. of Chain Link Fence
 1-16 Gate
 Remove Pavement cross hatched
 Sta. 469+00 to 470+25 in median area
 128 Sq. yds., Removing Old Pavement
 Place Conc. Curb and Gutter Def. A
 W.B. Expressway Sta. 469+80 - 470+05 25'
 E.B. Expressway Sta. 469+15 - 470+45 30'
 255' Lin. Ft.

Sta. 472+15 to 476+00 37.85 LF
 660 Lin. Ft. of Chain Link Fence
 1-16 Gate
 Sod slopes at each quadrant
 of Bridge as shown.
 Class A sodding
 59 sq. yds.
 Gas Main Service
 has been cut.

BM 216 Elev 137.869
 Arrow on Fire Hydrant at N.W.
 Corner of Maybury Grand and
 Kirby Ave

FED. ROAD FEDERAL
 UI 391 (49)
 CITY
 M-16 82-163 WAYNE DETROIT

Note: The maximum pay limits for Sand-Gravel
 Fill around Manholes and Catch-Basins on
 the entire proj shall be 1'-6" outside of footing outline.



Note:
 Construction details west of
 Sta. 472+30.00, shown ruled
 out, to apply on Road Contract 82-65-E7

Prop. Ramp Grade
 E.B. Off Ramp
 See Sht. No.

For Detailed Details
 and Sewer Grades
 See Sht. No. 63

Prop. Bus Ramp Grade
 W.B. Off Bus Ramp
 See Sht. No. 63

GRAND RIVER AVE. BRIDGE APPROACHES

EXPRESSWAY ITEMS Sta. 464 476

L-58-B-7
 B 34 of 8222-10

464 465 466 467 468 469 470 471 472 473 474 475 476

From Sta. 426+15 For Subbase Quantities See Sheet No. 4
 Point of Ending Mich. Project BUI 391 (52) Sta. Project 82-65 Sta. 472+30.00
 Point of Beginning Mich. Project UI 391 (49) State Project 82-163 Sta. 472+30.00
 For Subbase Quantities See Sh. No. C4

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	UI 391(49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-163	Wayne	Detroit		

OPERATION	BY	DATE
DESIGN		
CHECKED		
APPROVED		

OPERATION	BY	DATE
DESIGN		
CHECKED		
APPROVED		

Proposed Top of Curb Grade and Elev. For North Curb of West Bound Pavement.

Center Line Profile Top of Proposed Pavement Grade

Proposed Top of Curb Grade and Elev. For South Curb of East Bound Pavement.



From Sta. 458+67

Earth Exc. = 123,800 cu. yds.
 * Emb. (Selected Material) = 1,494 cu. yds.
 Emb. (Backfilling Basements) = 980 cu. yds.
 ** Waste = 120,526 cu. yds.

* Material to be selected from regular excavation for facing over Blue Clay as directed by the Engineer.
 ** Waste to be disposed of by the Contractor

Note:
 Construction details west of sta. 472+30, shown ruled out, to apply on Road Contract 82-65 C-7

GRAND RIVER AVE. BRIDGE APPROACHES
 L-58-B-17

476 477 478 479 480 481 482 483 484 485 486 487 488

SUBBASE
 Porous Backfill Grade B Modified = 1485 Cu. Yds.
 Sand-Gravel Backfill 8535 Cu. Yds.
 * To be furnished by the Contractor

Point of Ending Mich. Proj. UI 391 (49)
 State Project 82-163 Sta 486+05

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR
4	MICH.	UI 391 (49)	
ROUTE	STATE PROJECT	COUNTY	CITY
M-112	82-163	WAYNE	Detroit

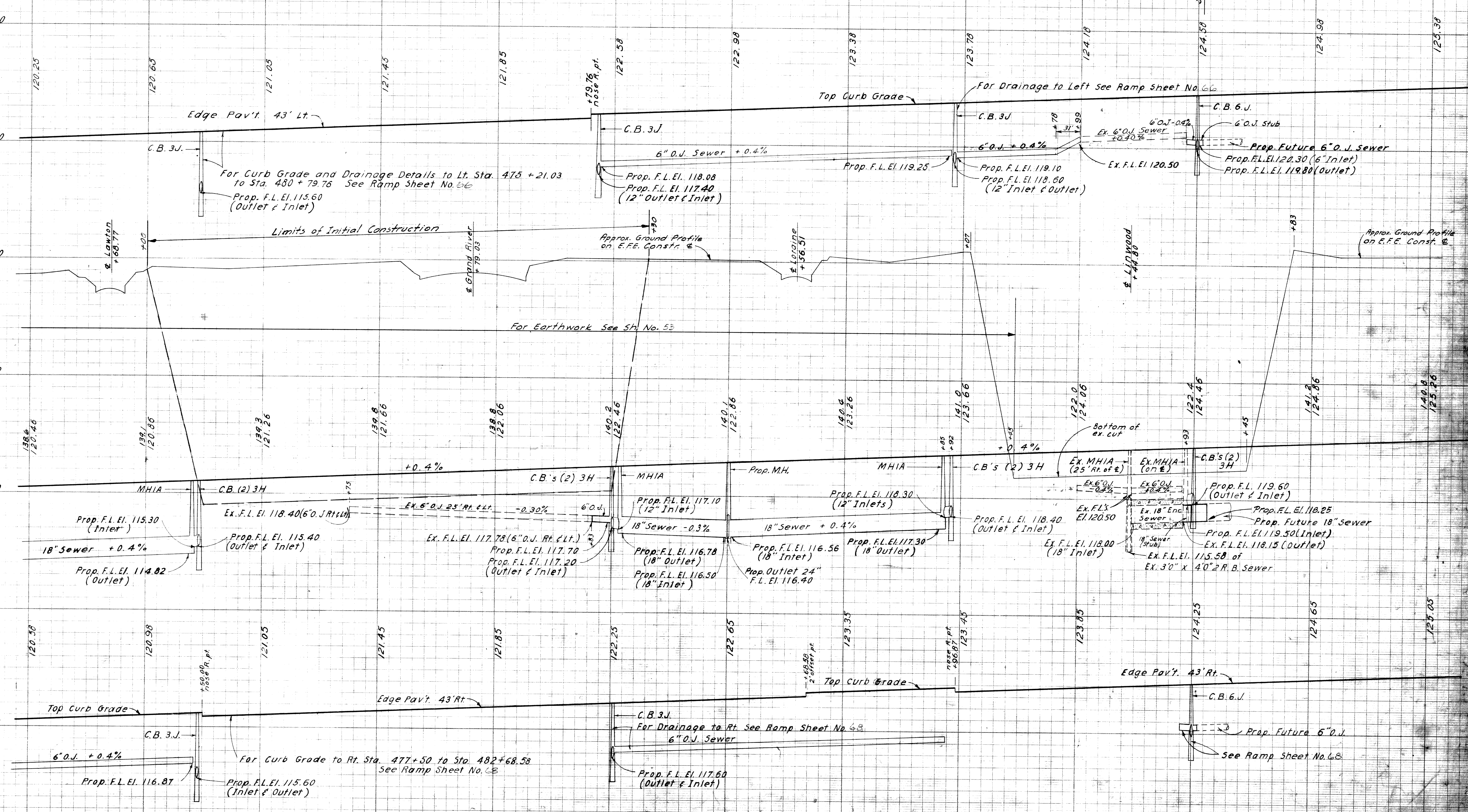
OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED	O.W.D.	6-51
FINAL DESIGN CHECKED	R.M.H.	9-51
FINAL R.O.W. CHECK		
QUANTITIES CHECKED		
SQUAD	MARKET & DANIELSON	3/4/52

OPERATION	BY	DATE
SURVEYED	O.W.D.	6-51
PLAN PLOTTED		
PROFILE PLOTTED		
PROFILE CHECKED		
FINAL DESIGN CHECKED		
QUANTITIES CHECKED		
FEDERAL INSPECTION		

Proposed Top of Curb Grade and Elev's for North Curb of West Bound Pavement

Center Line Profile Top of Proposed Pavement Grade

Proposed Top of Curb Grade and Elev's for South Curb of East Bound Pavement



476 477 478 479 480 481 482 483 484 485 486 487 488

GRAND RIVER AVE. BRIDGE APPROACHES

L-58-B-17

PROFILES Sta. 476-488

B34 of 82-2210

STATE PROJECT	FISCAL YEAR
82-163	UI 391 (49)

MADE IN U.S.A.
 H. K. ELLIOTT CO.
 ENGINEERING PLANT

FED. ROAD DIST. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	UI 391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-183	WAYNE	Detroit		
DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

Curve Data Bus Ramp West Bound

$\Delta = 01^{\circ} 08' 45''$ Lt.
 $D = 01^{\circ} 00' 00''$
 $R = 5729.65'$
 $T = 57.29'$
 $L = 114.58'$
 $E = 0.29'$
 $PC = 465 + 75.02$
 $PI = 466 + 32.31$
 $PT = 466 + 89.60$

Curve Data Bus Ramp West Bound

$\Delta = 01^{\circ} 55' 10''$ Lt.
 $D = 00^{\circ} 45' 00''$
 $R = 7639.47'$
 $T = 127.98'$
 $L = 255.93'$
 $E = 1.07'$
 $PC = 471 + 04.41$
 $PI = 472 + 32.39$
 $PT = 473 + 60.34$

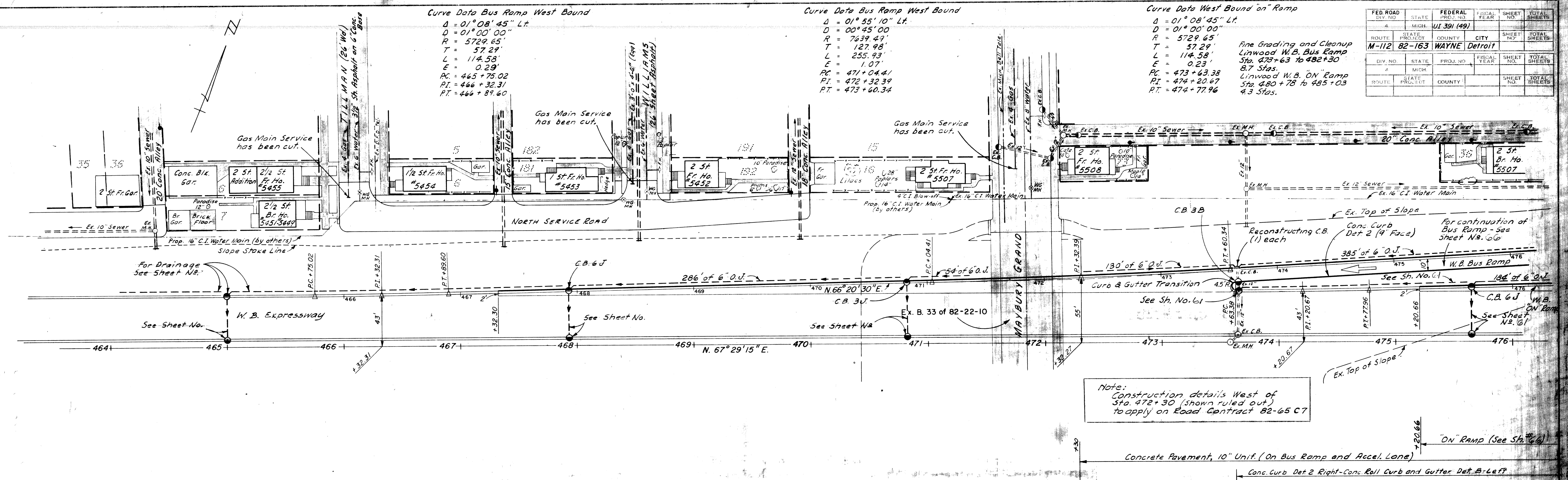
Curve Data West Bound on Ramp

$\Delta = 01^{\circ} 08' 45''$ Lt.
 $D = 01^{\circ} 00' 00''$
 $R = 5729.65'$
 $T = 57.29'$
 $L = 114.58'$
 $E = 0.29'$
 $PC = 473 + 63.38$
 $PI = 474 + 20.67$
 $PT = 474 + 77.96$

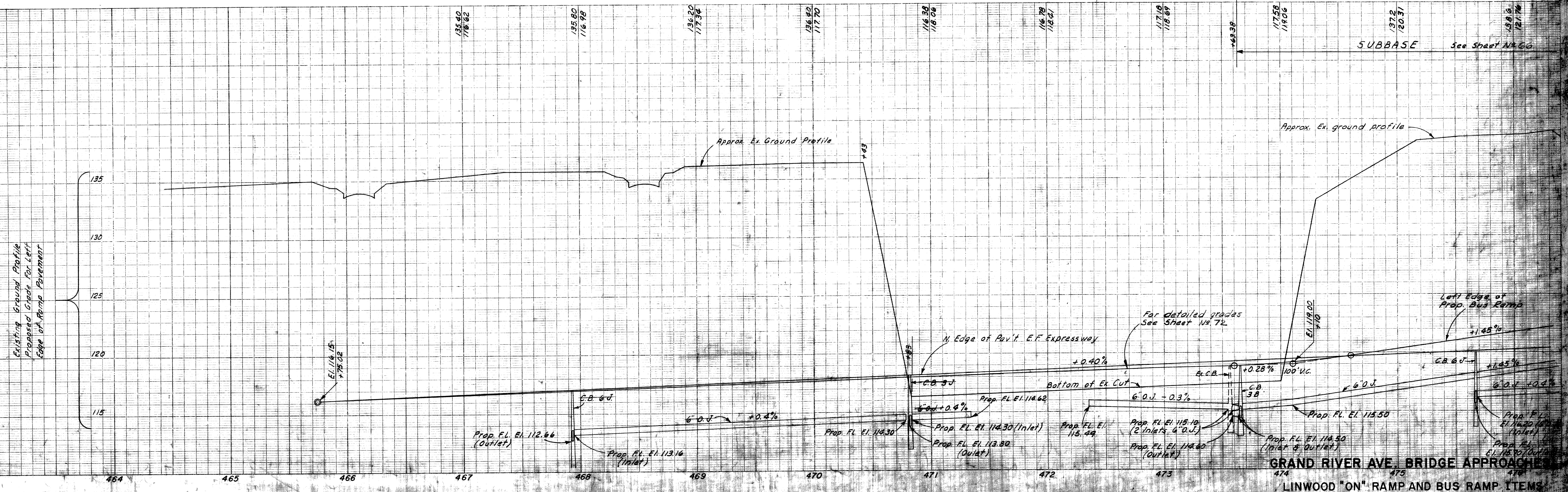
Fine Grading and Cleanup
 Linwood W.B. Bus Ramp
 Sta. 473+63 to 482+30
 8.7 Stas.
 Linwood W.B. "ON" Ramp
 Sta. 480+78 to 485+03
 4.3 Stas.

OPERATION	BY	DATE
PRELIMINARY P.O.W. CHECKED	W.R. BENTON	7/28/57
FINAL DESIGN CHECKED	S.B. FOSTER	5-51
TRACED	S.B. FOSTER	5-51
FINAL P.O.W. CHECK	S.B. FOSTER	7/28/57
QUANTITIES CHECKED	W.R. BENTON	5/14/52
ROAD		

OPERATION	BY	DATE
PLAN PLOTTED	P.B.	7/28/57
PROFILE PLOTTED	P.B.	7/28/57
PROFILE CHECKED	S.B.F.	7/28/57
PRELIMINARY GRADE	W.B.R.	7/28/57
FEDERAL INSPECTION		



Note:
Construction details West of Sta. 472+30 (shown ruled out) to apply on Road Contract 82-65 C7



GRAND RIVER AVE. BRIDGE APPROACH
 LINWOOD "ON" RAMP AND BUS RAMP ITEMS
 L-58-B-17 B 34 of 82-22-10

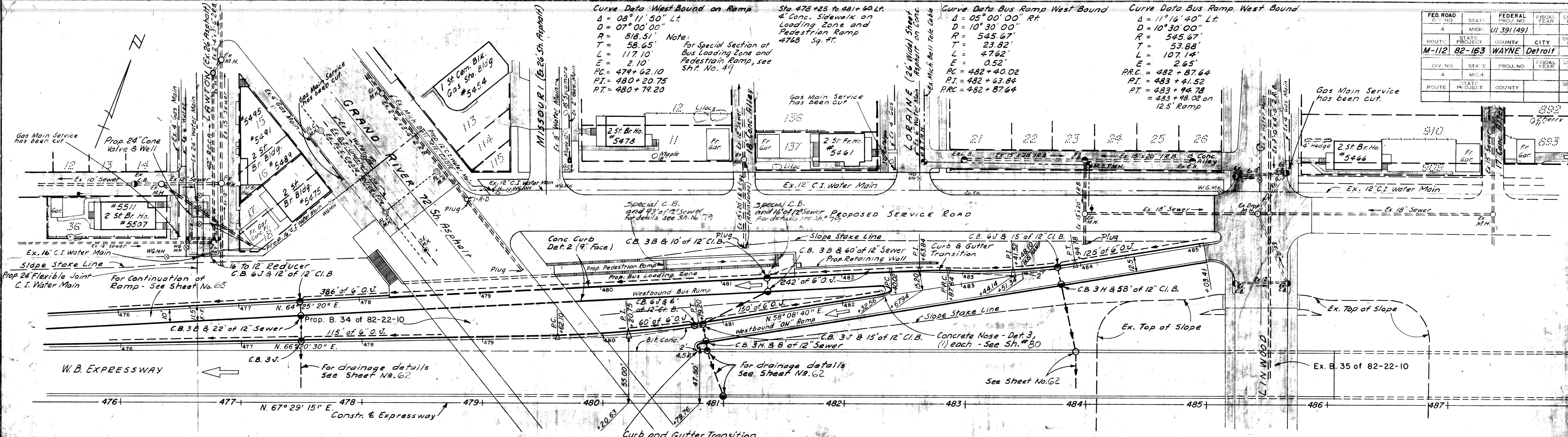
FED. ROAD DIST. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MI	11 391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-163	WAYNE	Detroit		

DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MI				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS

Curve Data West Bound on Ramp
 $\Delta = 08^{\circ} 11' 50''$ Lt.
 $D = 07^{\circ} 00' 00''$
 $R = 818.51'$ Note:
 $T = 58.65'$ For Special Section at Bus Loading Zone and Pedestrian Ramp, see Sh. No. 49
 $L = 117.10'$
 $E = 2.10'$
 $PC = 474+62.10$
 $PI = 480+20.75$
 $PT = 480+79.20$

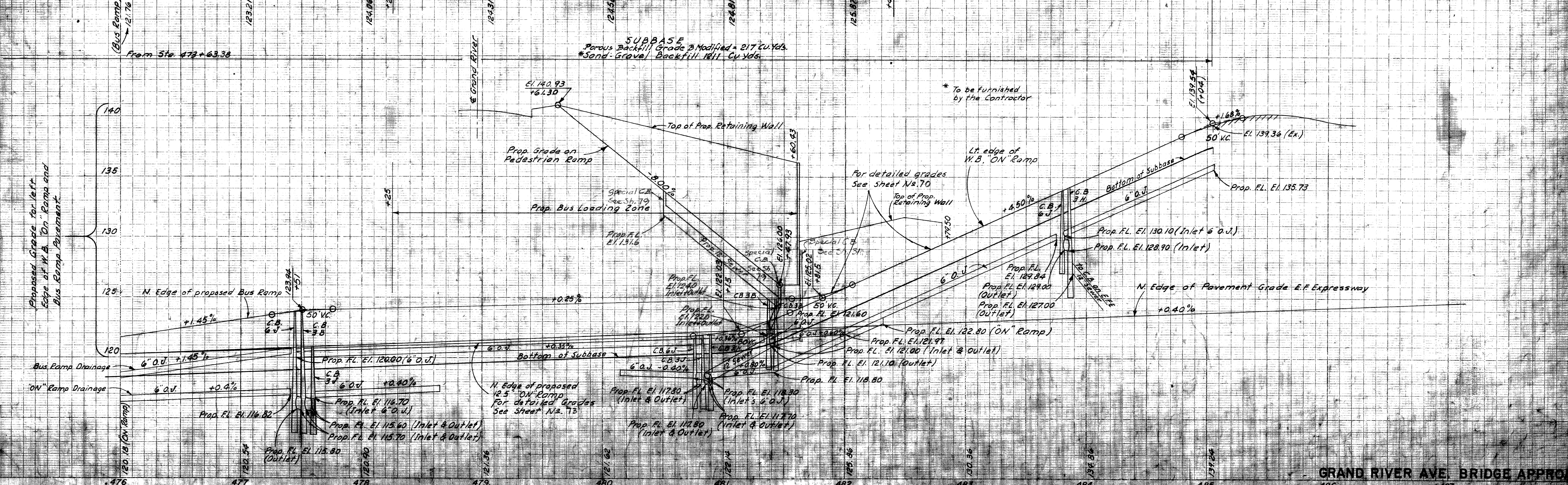
Curve Data Bus Ramp West Bound
 $\Delta = 05^{\circ} 00' 00''$ Rt.
 $D = 10^{\circ} 30' 00''$
 $R = 545.67'$
 $T = 23.82'$
 $L = 47.62'$
 $E = 0.52'$
 $PC = 482+40.02$
 $PI = 482+63.84$
 $PT = 482+87.64$

Curve Data Bus Ramp West Bound
 $\Delta = 11^{\circ} 16' 40''$ Lt.
 $D = 10^{\circ} 30' 00''$
 $R = 545.67'$
 $T = 53.88'$
 $L = 107.14'$
 $E = 2.65'$
 $PRC = 482+87.64$
 $PI = 483+41.52$
 $PT = 483+94.78$
= 483+98.02 on 12.5' Ramp



Concrete Base Course 9" Uniform with Bit Conc. Wearing Course (On Ramp and Acceleration Lane)
Concrete Pavement 10" Uniform (On Bus Ramp and Acceleration Lane)

Conc. Curb Det. 2 Right - Conc. Roll Curb and Gutter Det. B Left (Bus Ramp)
Conc. Curb Detail 2 Right and Left (Bus Ramp)
Conc. Roll Curb & Gutter Det. B Left (Bus Ramp)



GRAND RIVER AVE. BRIDGE APPROACH

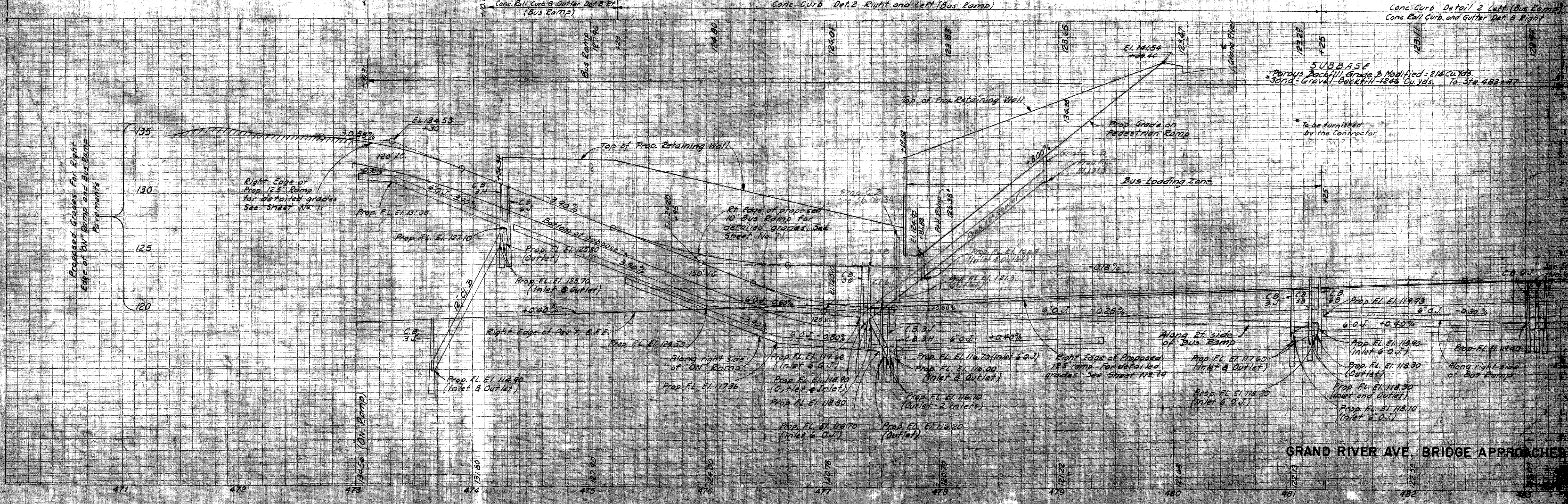
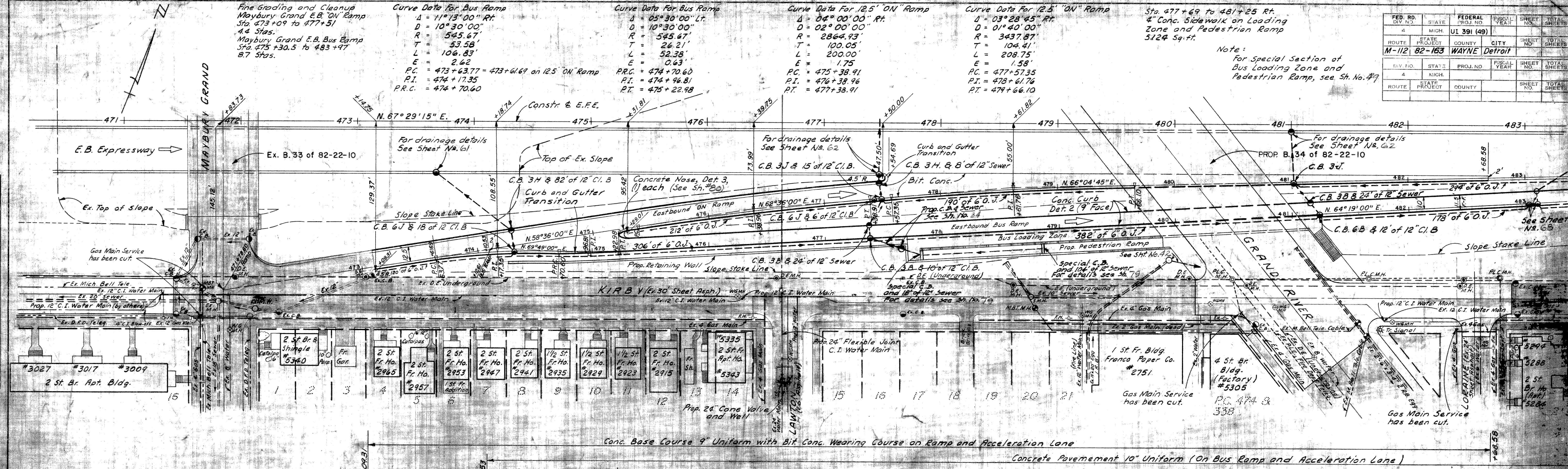
L-58-B-17
LINWOOD "ON" RAMP and BUS RAMP
B34 of 82-22-10

DATE	5-51
BY	S. B. POSTER
CHECKED	S. B. POSTER
APPROVED	S. B. POSTER
SCALE	AS SHOWN

DATE	5-51
BY	S. B. POSTER
CHECKED	S. B. POSTER
APPROVED	S. B. POSTER
SCALE	AS SHOWN

FED. RD. DIV. NO.	112	STATE	MI <th>FEDERAL PROJ. NO.</th> <td>391 (49)<th>SHEET NO.</th><td>158<th>TOTAL SHEETS</th><td>163</td></td></td>	FEDERAL PROJ. NO.	391 (49) <th>SHEET NO.</th> <td>158<th>TOTAL SHEETS</th><td>163</td></td>	SHEET NO.	158 <th>TOTAL SHEETS</th> <td>163</td>	TOTAL SHEETS	163
ROUTE	M-112	COUNTY	WAYNE <th>CITY</th> <td>Detroit</td> <th>SHEET NO.</th> <td>158<th>TOTAL SHEETS</th><td>163</td></td>	CITY	Detroit	SHEET NO.	158 <th>TOTAL SHEETS</th> <td>163</td>	TOTAL SHEETS	163
PROJECT	82-163	COUNTY	WAYNE <th>CITY</th> <td>Detroit</td> <th>SHEET NO.</th> <td>158<th>TOTAL SHEETS</th><td>163</td></td>	CITY	Detroit	SHEET NO.	158 <th>TOTAL SHEETS</th> <td>163</td>	TOTAL SHEETS	163

Note:
For Special Section of
Bus Loading Zone and
Pedestrian Ramp, see Sh. No. 49



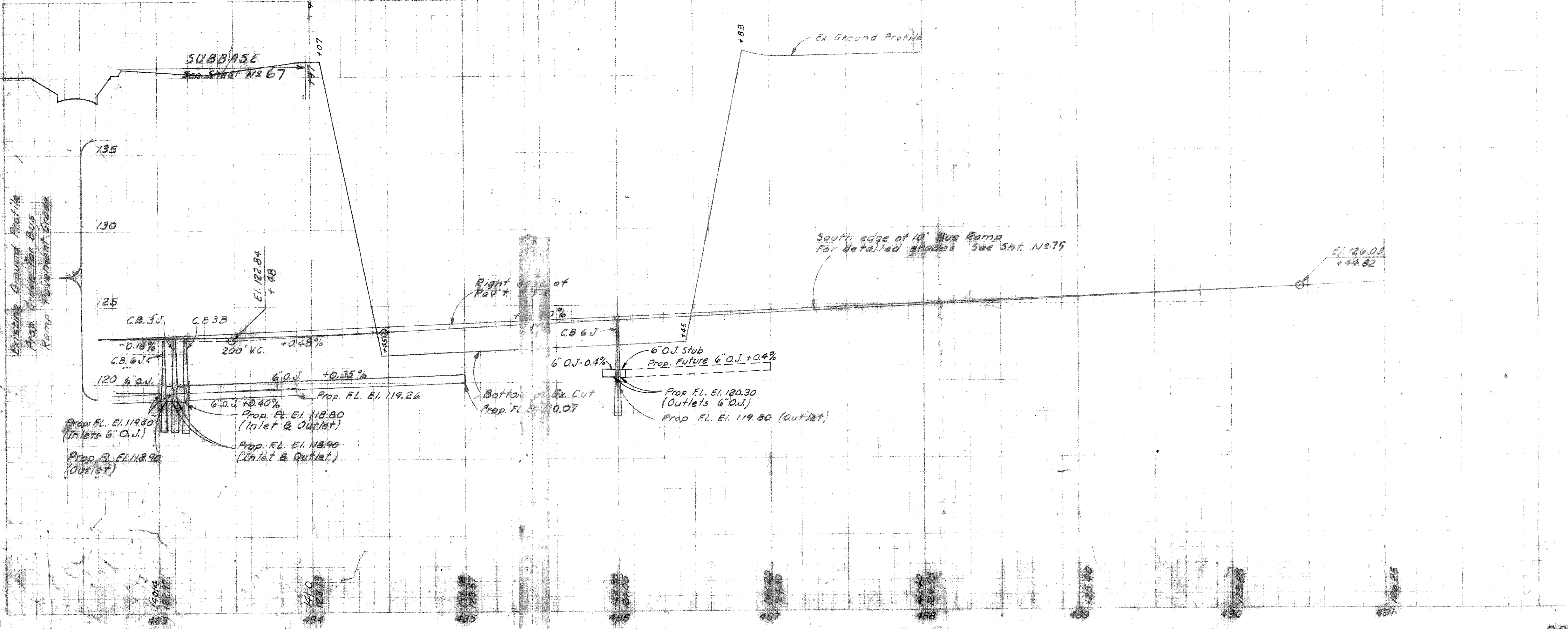
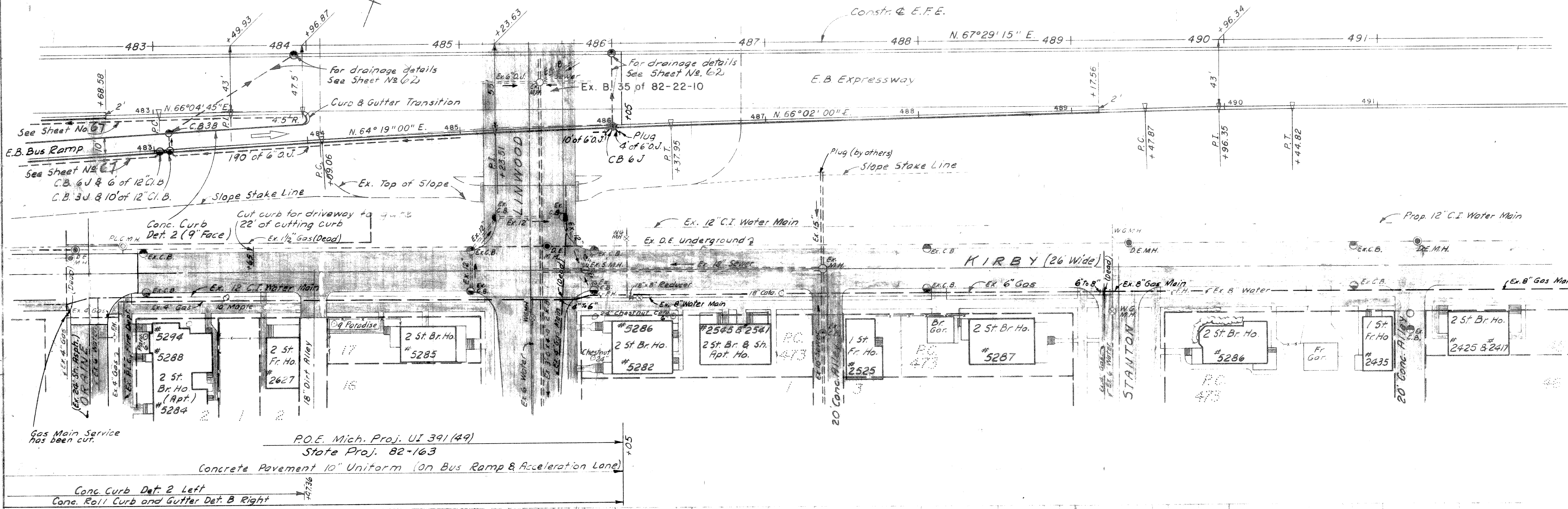
GRAND RIVER AVE. BRIDGE APPROACHES
MAYBURY GRAND "ON" RAMP and BUS RAMP
L-58-B-17 B-34 of 82-22-10

FED. ROAD DIST.	FED. PROJECT NO.	CITY	TOTAL SHEETS
M-112	82-163	WAYNE, Detroit	11
			11
			11

Curve Data for 12.5' Ramp
 $\Delta = 01^{\circ}24'30''$ Rt.
 $D = 01^{\circ}30'00''$
 $R = 3819.83'$
 $T = 46.95'$
 $L = 43.89'$
 $E = 0.27'$
 $PC = 483 + 02.98$
 $PI = 483 + 49.93$
 $PT = 483 + 96.87$

Curve Data for Bus Ramp
 $\Delta = 01^{\circ}43'00''$ Rt.
 $D = 00^{\circ}45'00''$
 $R = 7639.49'$
 $T = 114.45'$
 $L = 228.89'$
 $E = 0.84'$
 $PC = 484 + 09.06$
 $PI = 485 + 23.51$
 $PT = 486 + 37.45$

Curve Data for Bus Ramp
 $\Delta = 01^{\circ}27'15''$ Rt.
 $D = 01^{\circ}30'00''$
 $R = 3819.83'$
 $T = 48.48'$
 $L = 96.94'$
 $E = 0.31'$
 $PC = 489 + 47.87$
 $PI = 489 + 96.35$
 $PT = 490 + 44.81$



DATE: 11/17/82
 DRAWN BY: M.B. Reiniche
 CHECKED BY: S.B. Foster
 PROJECT: GRAND RIVER AVE. BRIDGE APPROACH
 SHEET: L-58-B-17

DATE: 11/17/82
 DRAWN BY: M.B. Reiniche
 CHECKED BY: S.B. Foster
 PROJECT: GRAND RIVER AVE. BRIDGE APPROACH
 SHEET: L-58-B-17

GRAND RIVER AVE. BRIDGE APPROACH

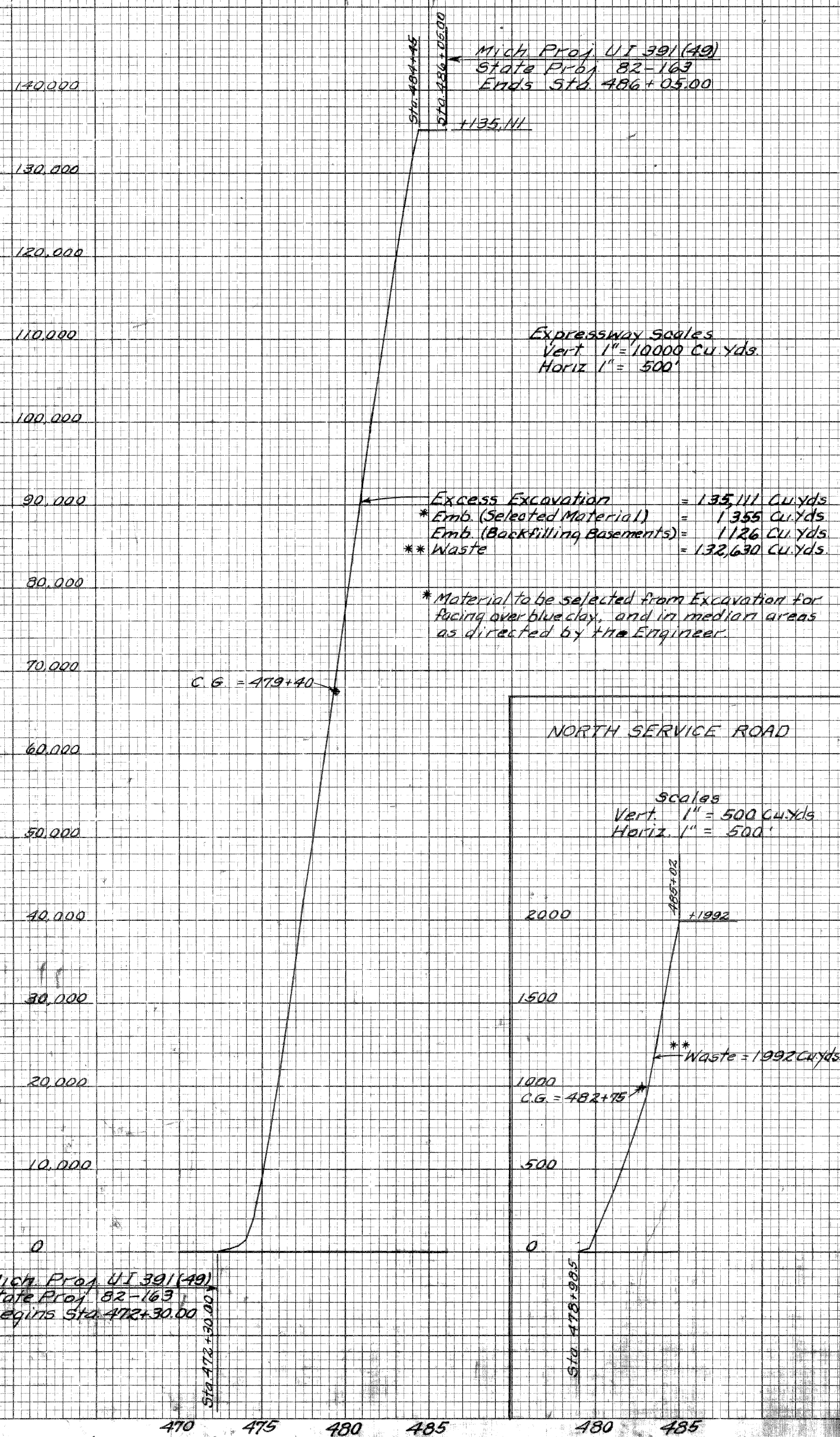
SOUTH SERVICE RD. AND MAYBURY GRAND "ON" BUS RAMP
 L-58-B-17 B34 of 82-22-10

MASS DIAGRAM

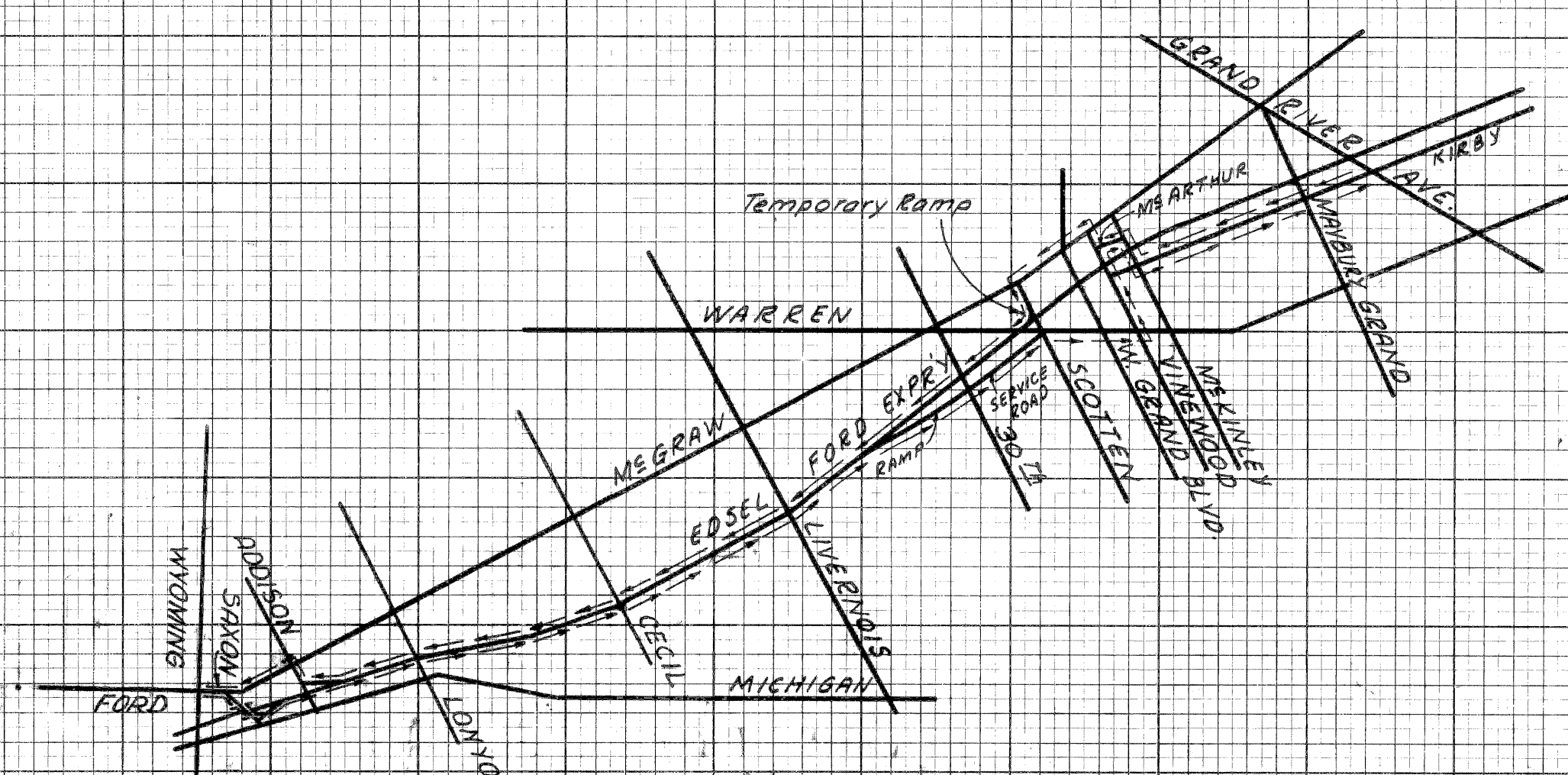
FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	U1391(49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-163	WAYNE	DETROIT			

B. P. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS

EXPRESSWAY



** Waste to be disposed of by the Contractor. (Ford Foundation property is available)
 For haul route to be used for materials to be disposed of west of Warren Ave., see sketch below to right.
 Exact location of available waste area shall be obtained from the Engineer before disposal operations are started.



SKETCH SHOWING HAUL ROUTE TO BE USED FOR WASTE MATERIALS TO BE DISPOSED OF WEST OF WARREN AVE.

GRAND RIVER AVE. BRIDGE APPROACHES

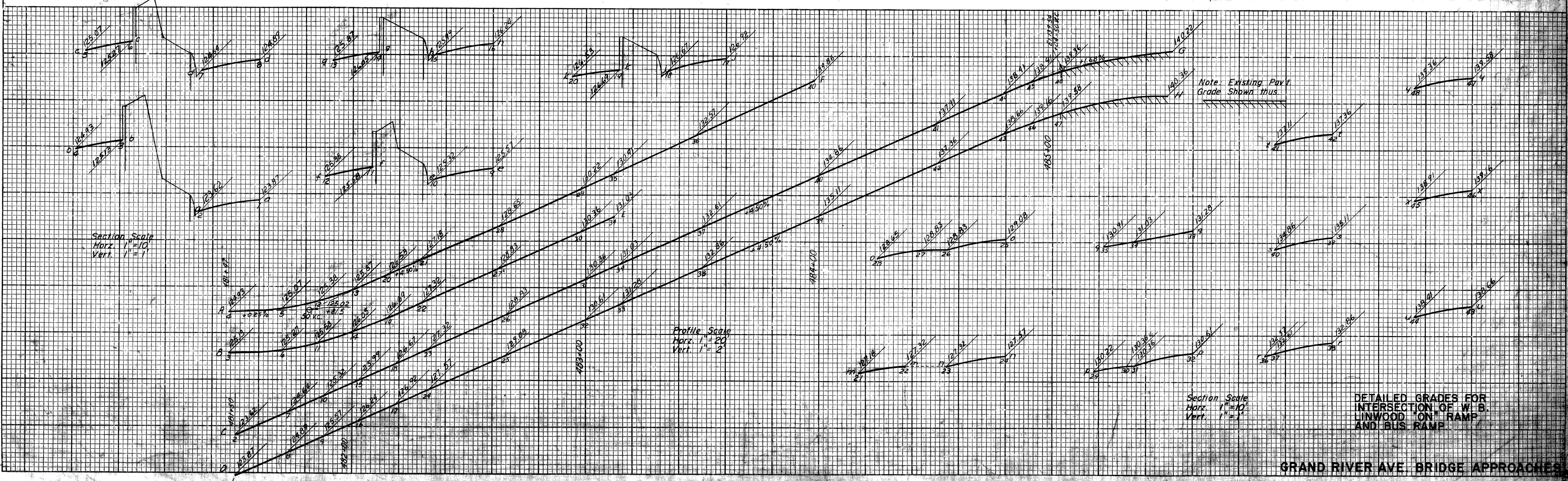
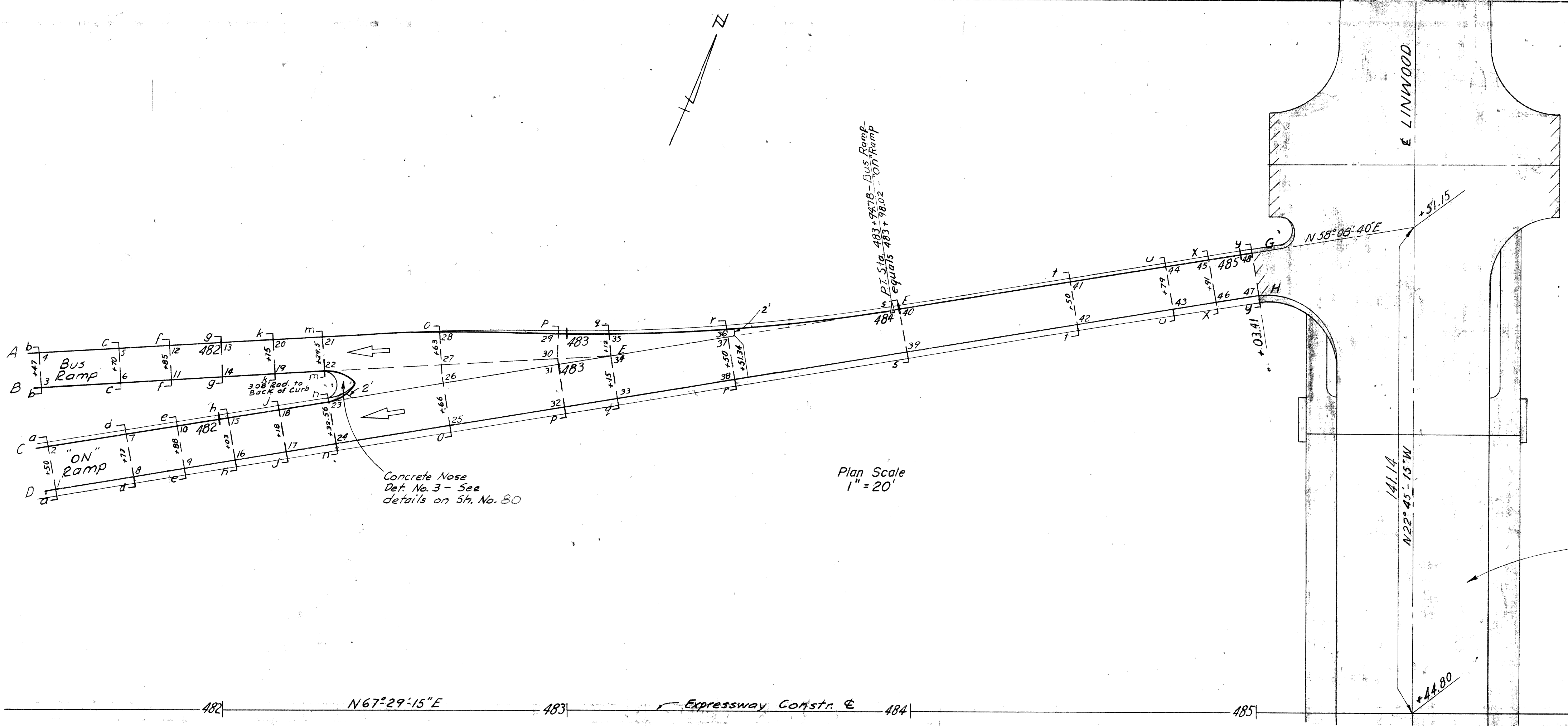
BY DATE
 PLOTTED 11-52
 COMPUTED 11-52
 CHECKED 11-52
 REVISIONS
 BY
 CHECKED

FED. ROAD DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	UI 391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-163	WAYNE	DETROIT		

FED. ROAD DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	TWP.	SHEET NO.	TOTAL SHEETS

OPERATION	BY	DATE
FINAL R.O.W. CHECKED		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES CHECKED		
SQUAD		

OPERATION	BY	DATE
DESIGN CHECKED		
PLAN PLOTTED		
PROFILE PLOTTED		
PROF. CHECKED		
GRADE INSPECTION		
FEDERAL INSPECTION		



Section Scale
Horz. 1" = 10'
Vert. 1" = 1'

Profile Scale
Horz. 1" = 20'
Vert. 1" = 2'

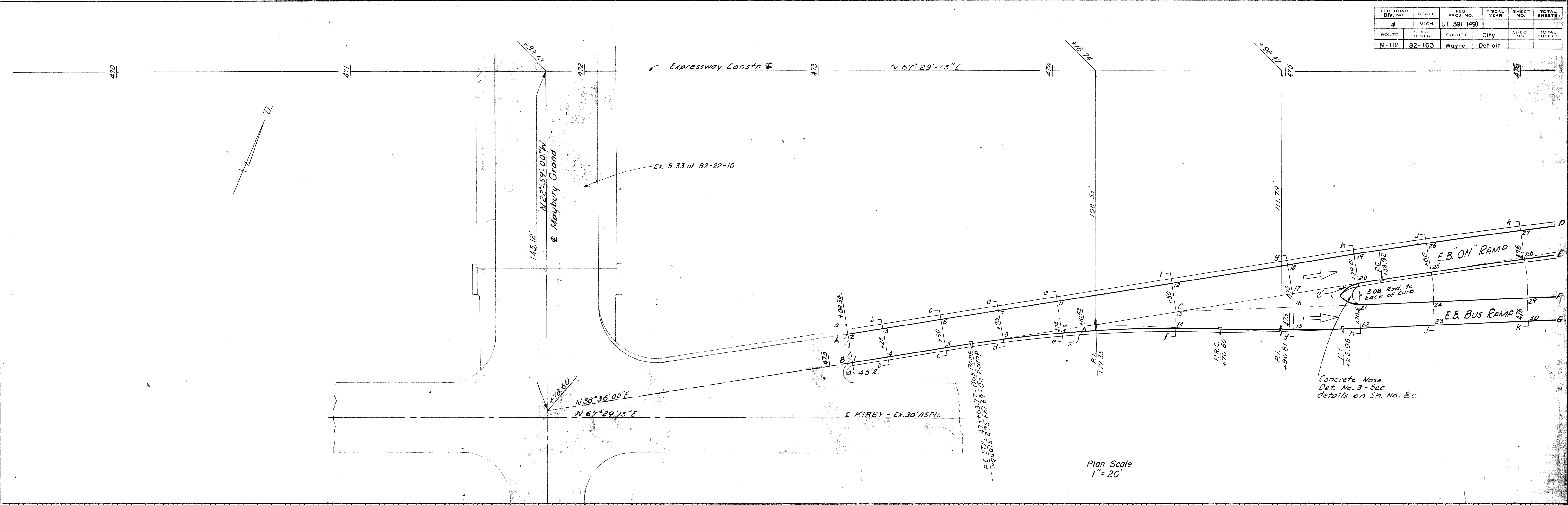
Section Scale
Horz. 1" = 10'
Vert. 1" = 1'

DETAILS GRADES FOR
INTERSECTION OF W.B.
LINWOOD ON RAMP
AND BUS RAMP

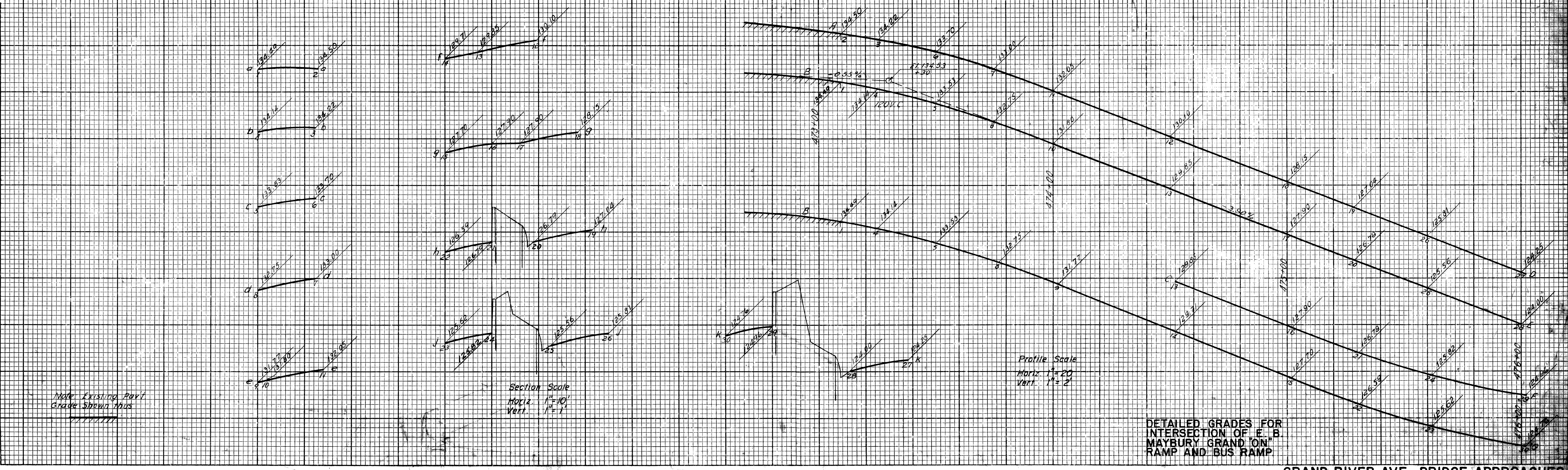
GRAND RIVER AVE. BRIDGE APPROACHES

FED. ROAD DIV. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	UI 391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-163	Wayne	Detroit		

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN CHECKED		
FINAL R.O.W. CHECK		
QUANTITIES CHECKED		
SQUAD	MORCK	7/51

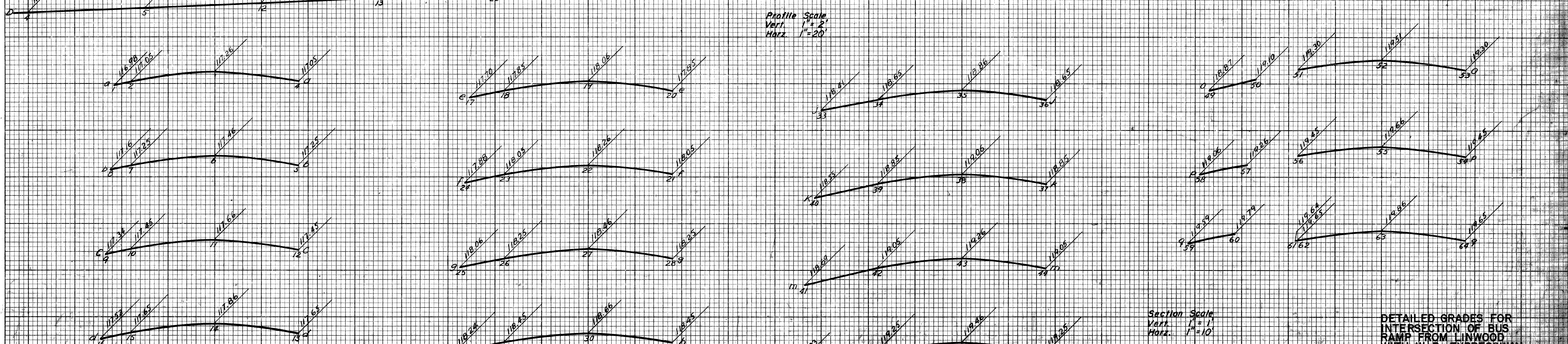
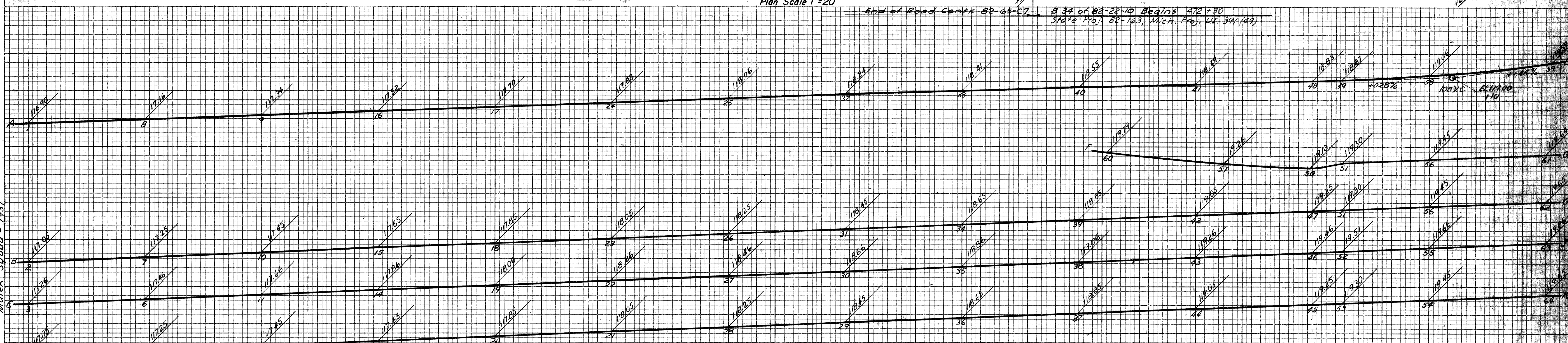
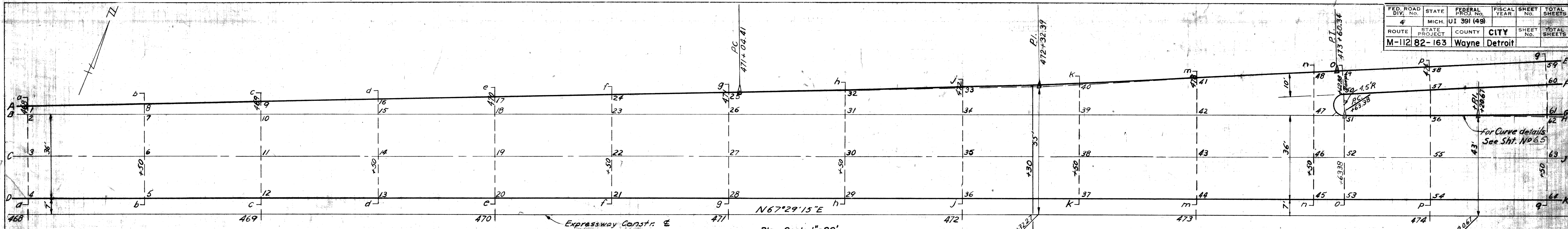


OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED	H.B.R.	7-51
PLAN CHECKED		
PROFILE CHECKED	Tracab	R.M.H.
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		



Note Existing Pavt Grade Shown Thus

FED. ROAD DIST. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	UI 391 (49)			
ROUTE PROJECT	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112 82-163	Wayne	Detroit			



DETAILED GRADES FOR INTERSECTION OF BUS RAMP FROM LINWOOD WITH W. B. EXPRESSWAY.

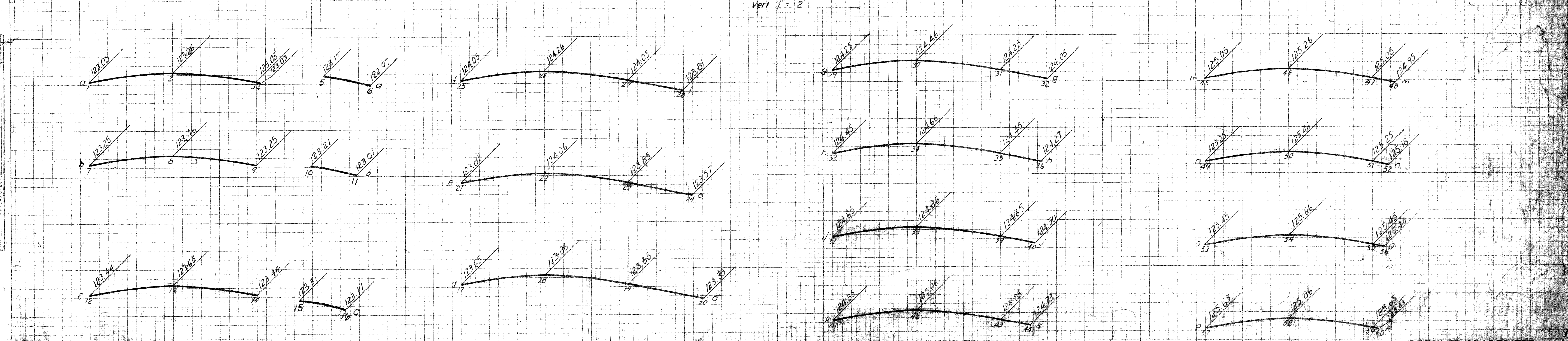
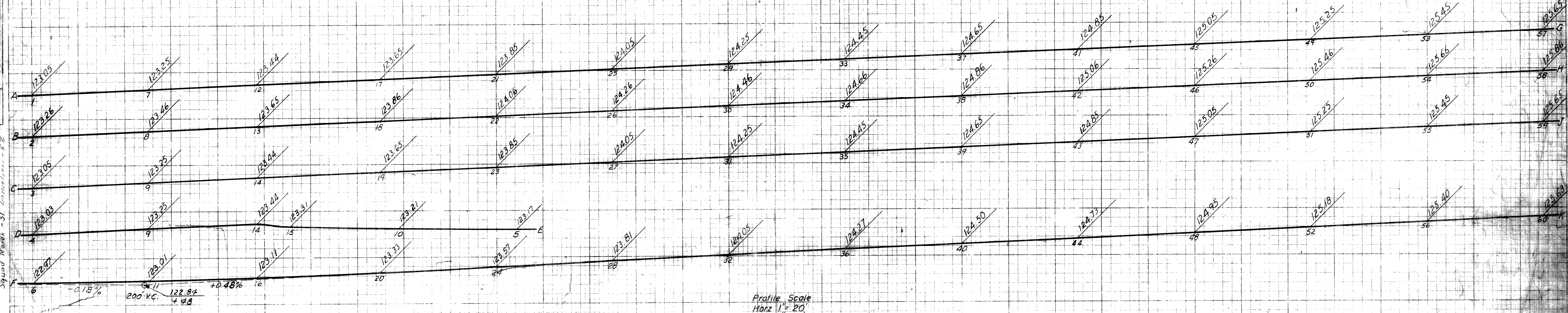
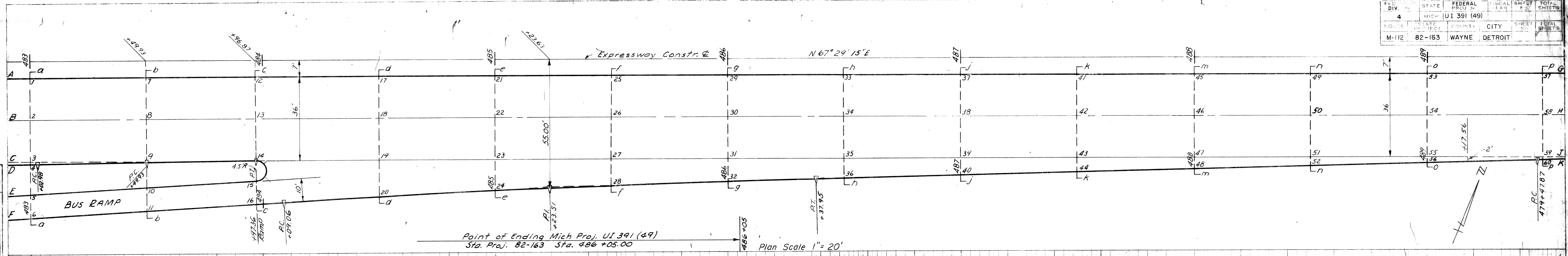
GRAND RIVER AVE. BRIDGE APPROACHES

L-58-B-17 B 34 of 82-22-10

DATE	BY
NO.	NO.
AREAS CHECKED	AREAS CHECKED

DATE	BY
5-57	R. M. H.
NO.	NO.
AREAS CHECKED	AREAS CHECKED

FILE NO.	STATE	FEDERAL PROJ. N.	SCALE	SHEET NO.	TOTAL SHEETS
4	MICH.	UI 391 (49)	1" = 20'	17	20
ROUTE	COUNTY	CITY			
M-112	82-163	WAYNE	DETROIT		



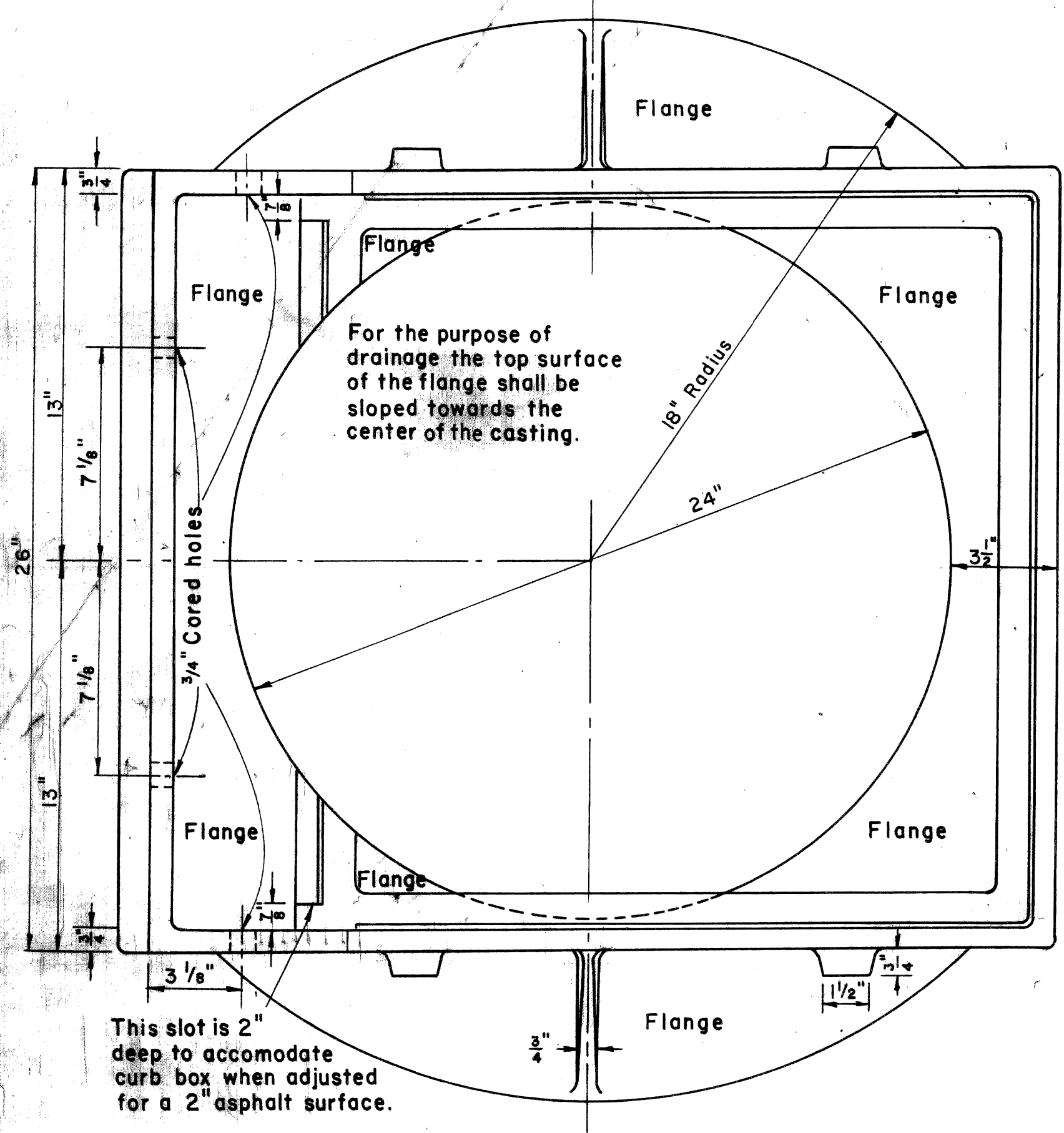
DETAILED GRADES FOR
INTERSECTION OF BUS
RAMP FROM MAYBURY
GRAND WITH E. B. EXPRESS
WAY

DATE
BY
SURVEYED
NOTED
NO. 15 CHECKED

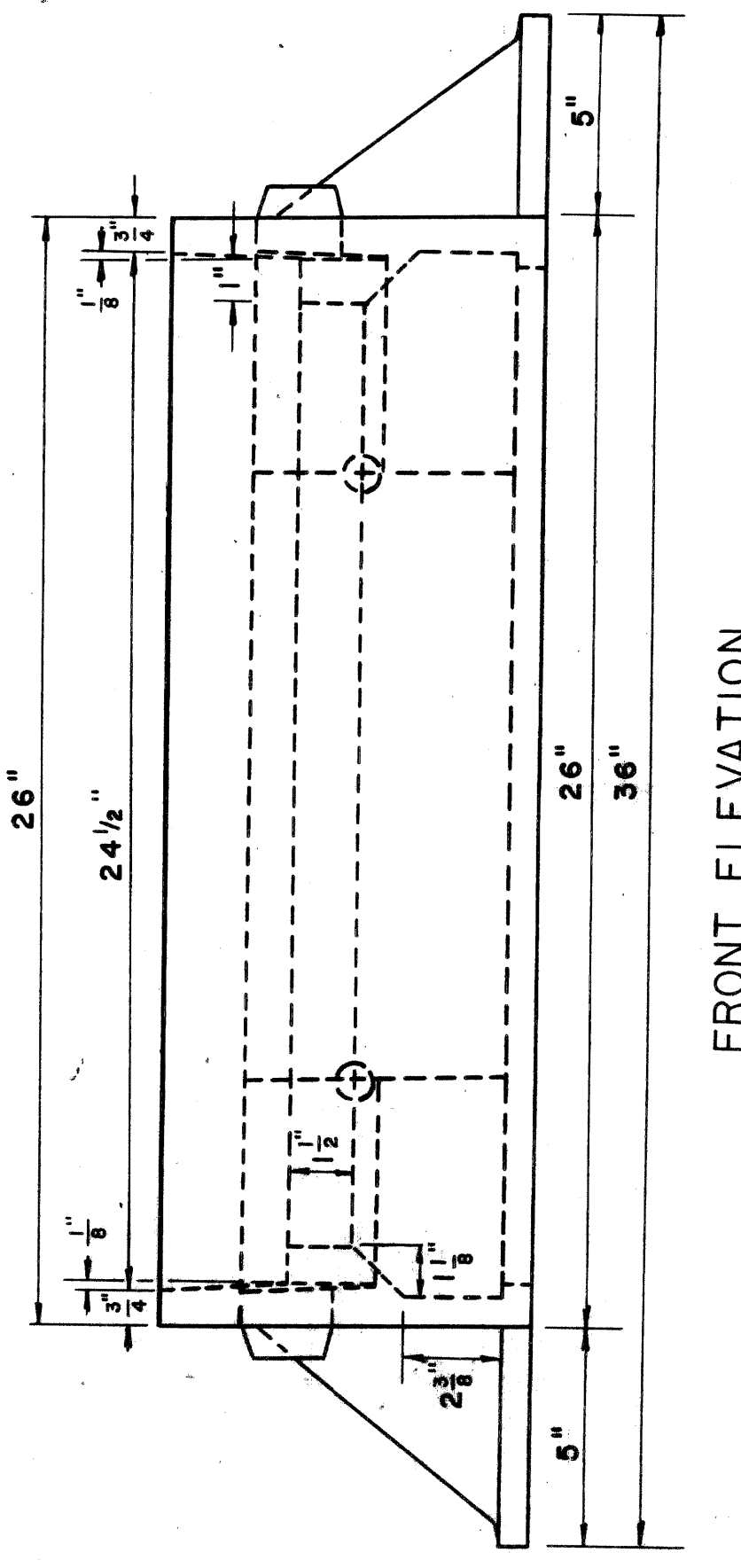
DATE
BY
SURVEYED
NOTED
NO. 15 CHECKED

Squad March - 51 Cornellius - 52

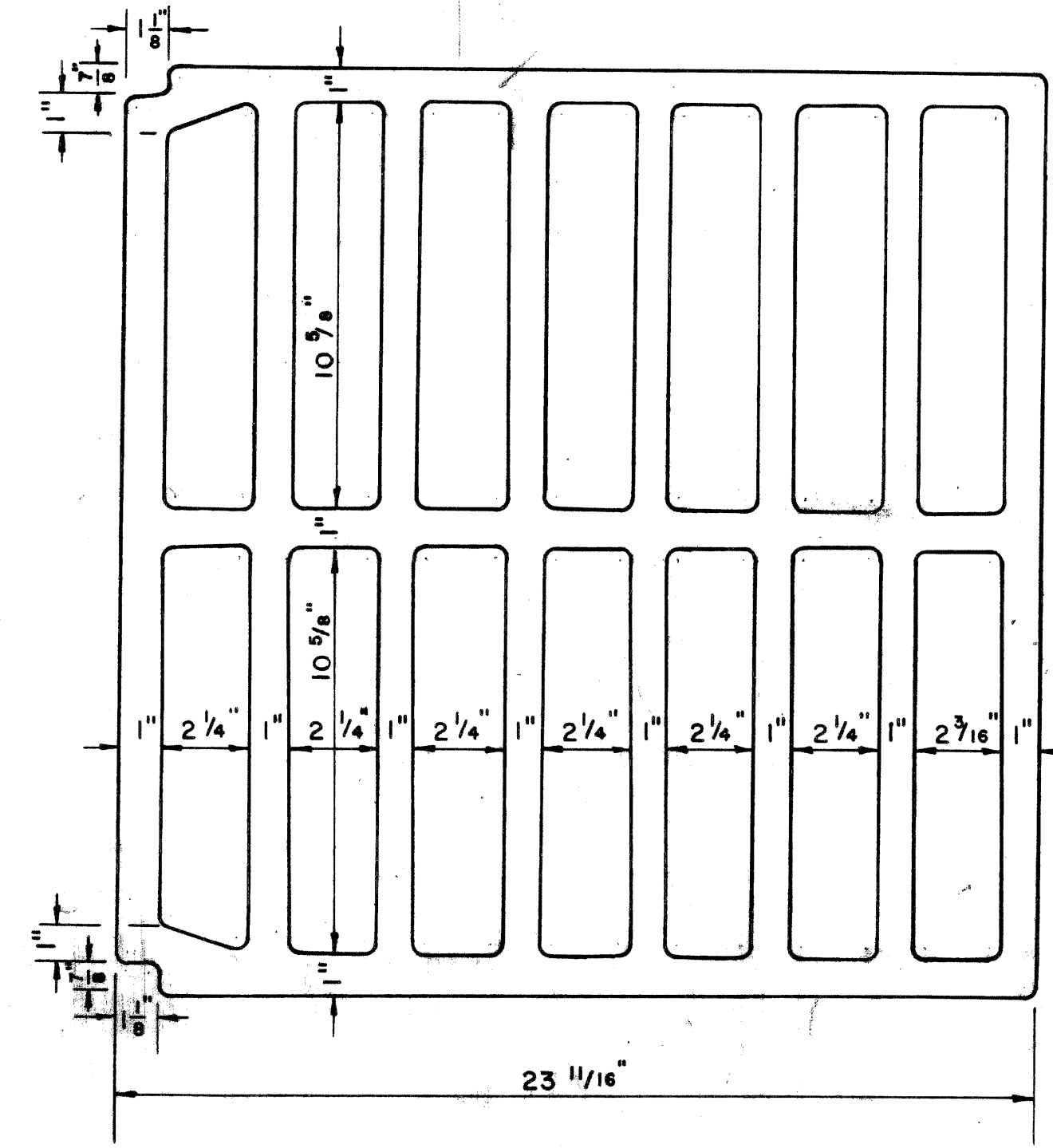
FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	17 391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	22-163	WAYNE	Detroit		
F.P.D. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS



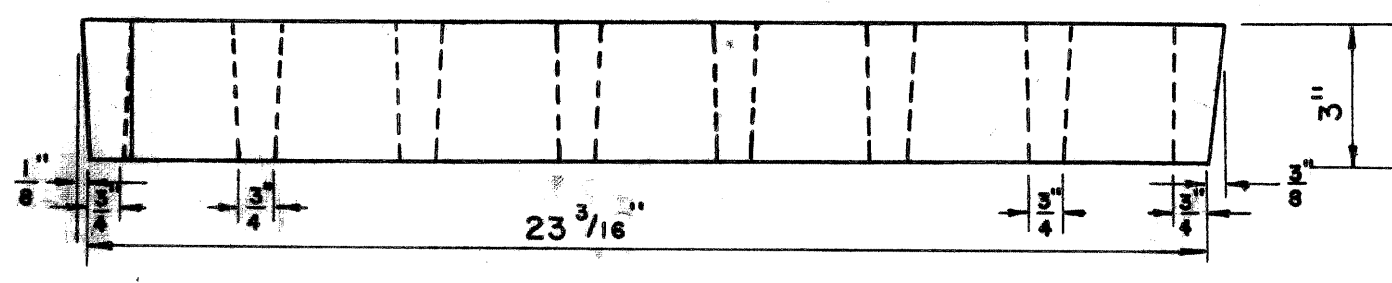
PLAN VIEW



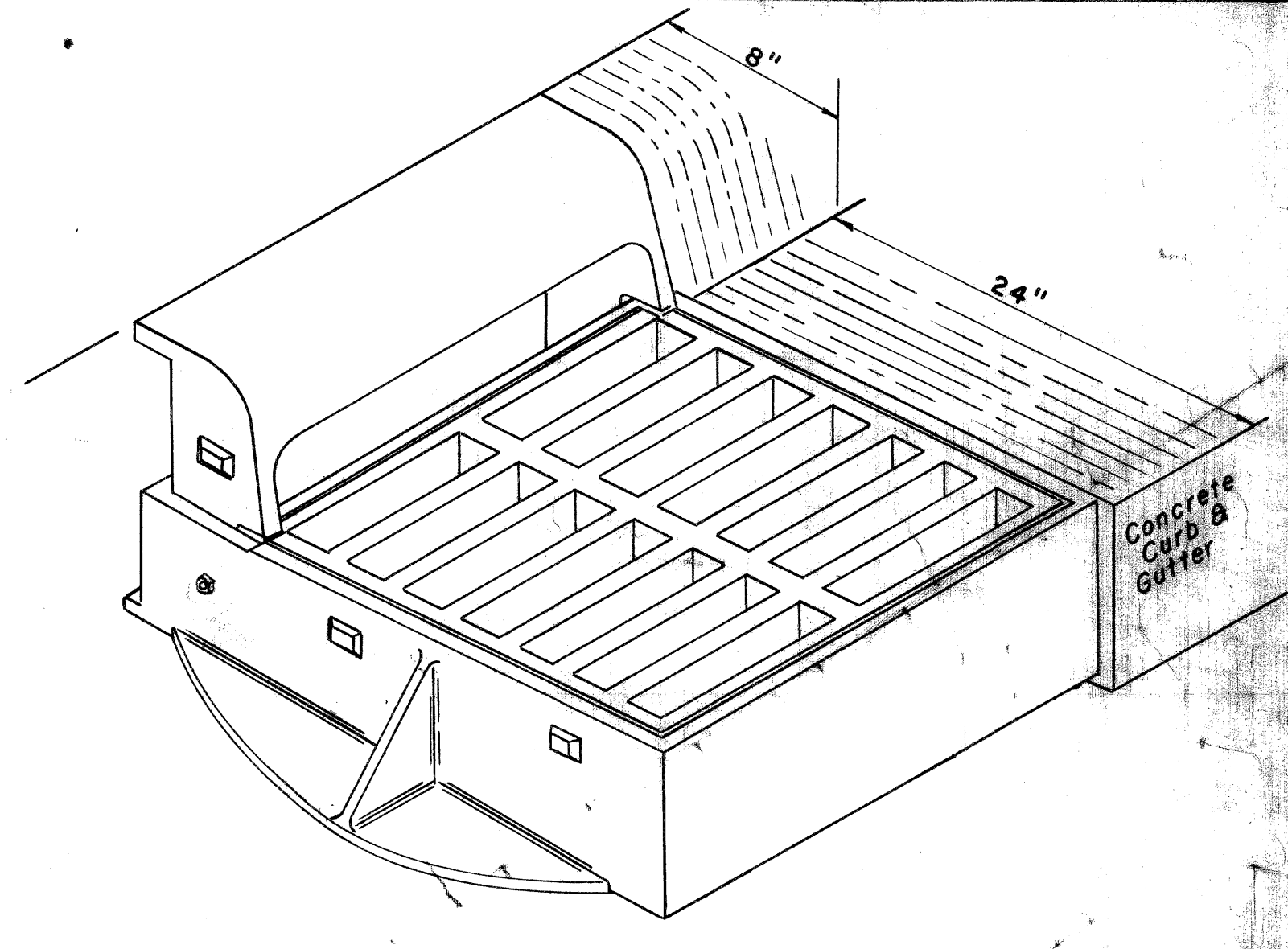
FRONT ELEVATION



PLAN VIEW



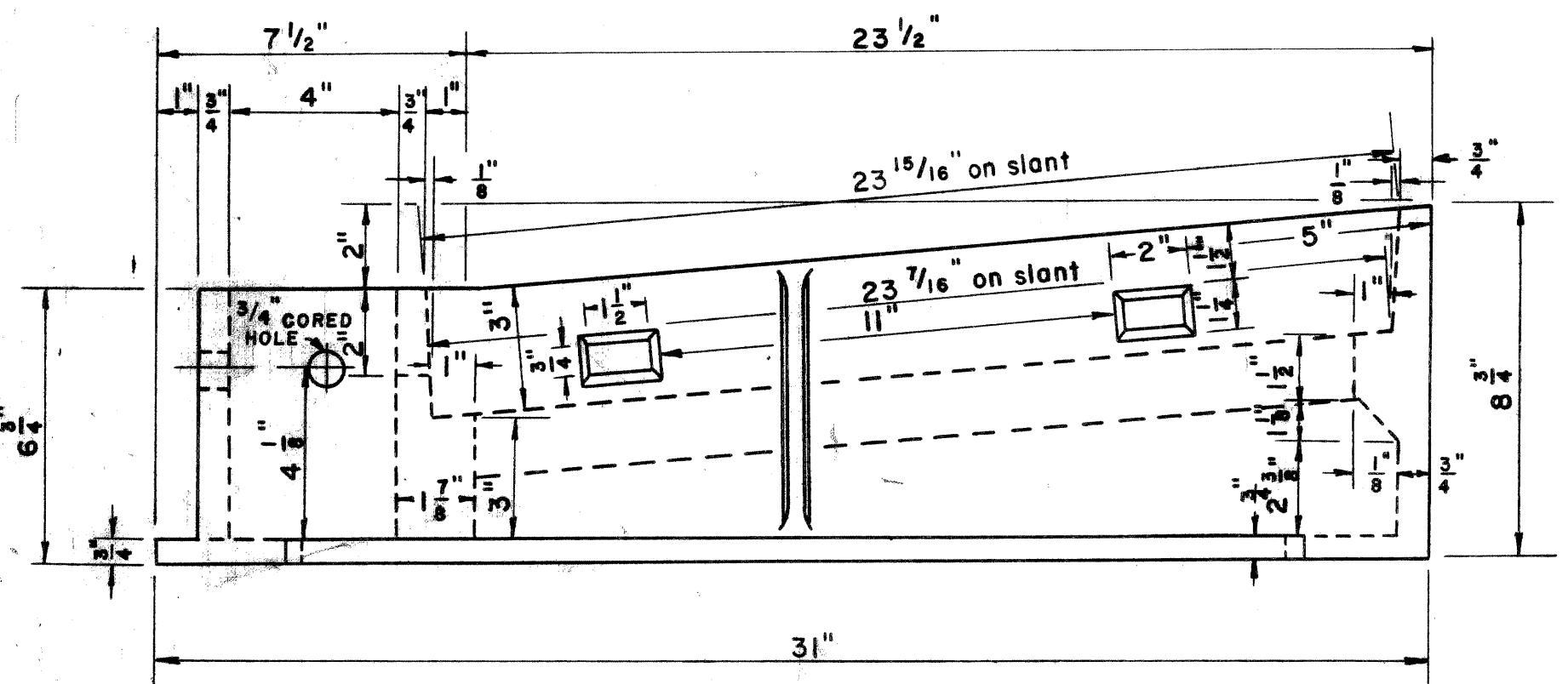
SIDE ELEVATION



ISOMETRIC VIEW

NOTES:

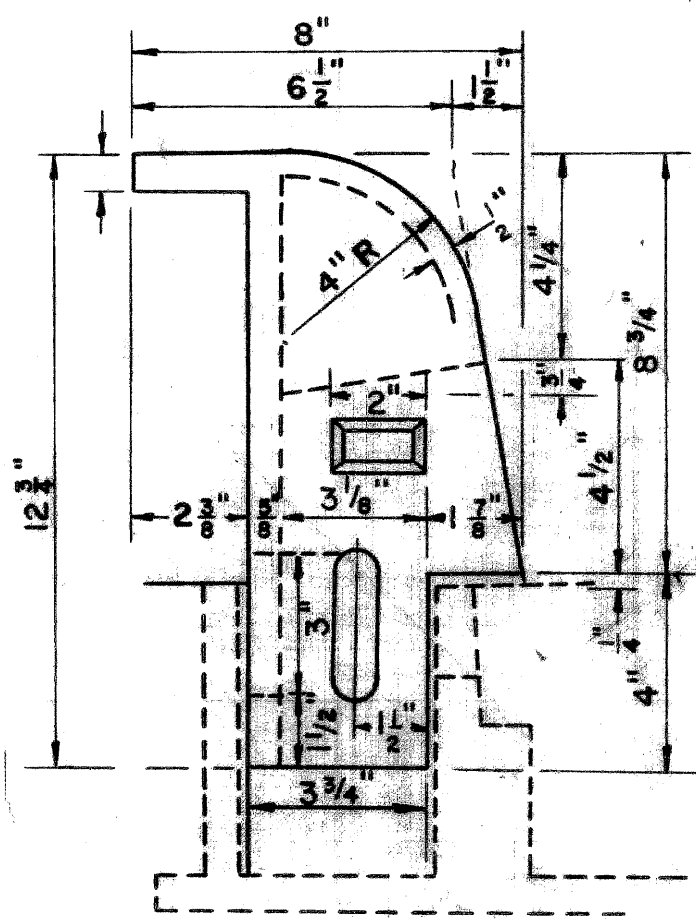
- All materials and workmanship shall be in accordance with the current Michigan State Highway Department Standard Specifications.
- The castings shall meet the requirement of the Current Specifications for Gray Iron Castings A.S.T.M. Designation A-48 and shall have a minimum strength as provided for class No. 30 Gray Iron castings.
- All Castings shall be cleaned by sand blasting.
- The bearing surfaces between Curb Box and Frame shall be Ground and seated so as to produce an even bearing thru out. The Curb Box shall be firmly bolted in place on the frame before finishing of the Grate Seats is done. Galvanized iron washers and shims shall be placed between frame and ends of Curb Box so as to prevent breaking of Curb Box when these bolts are tightened.
- The producing foundry shall deliver the Curb Box and Frame completely assembled to the contractor.
- The seating face of the grate and the seat for same on the frame and the curb box shall be ground so that the grate shall have an even bearing on its seat to prevent rocking or tilting.
- The castings shall be free of pouring faults, blow holes, cracks and other imperfections. They shall be sound, true to form and thickness, clean, and neatly finished, and shall be coated with coal tar pitch varnish.



SIDE ELEVATION

DETAILS OF FRAME
Scale 1/4" = 1'

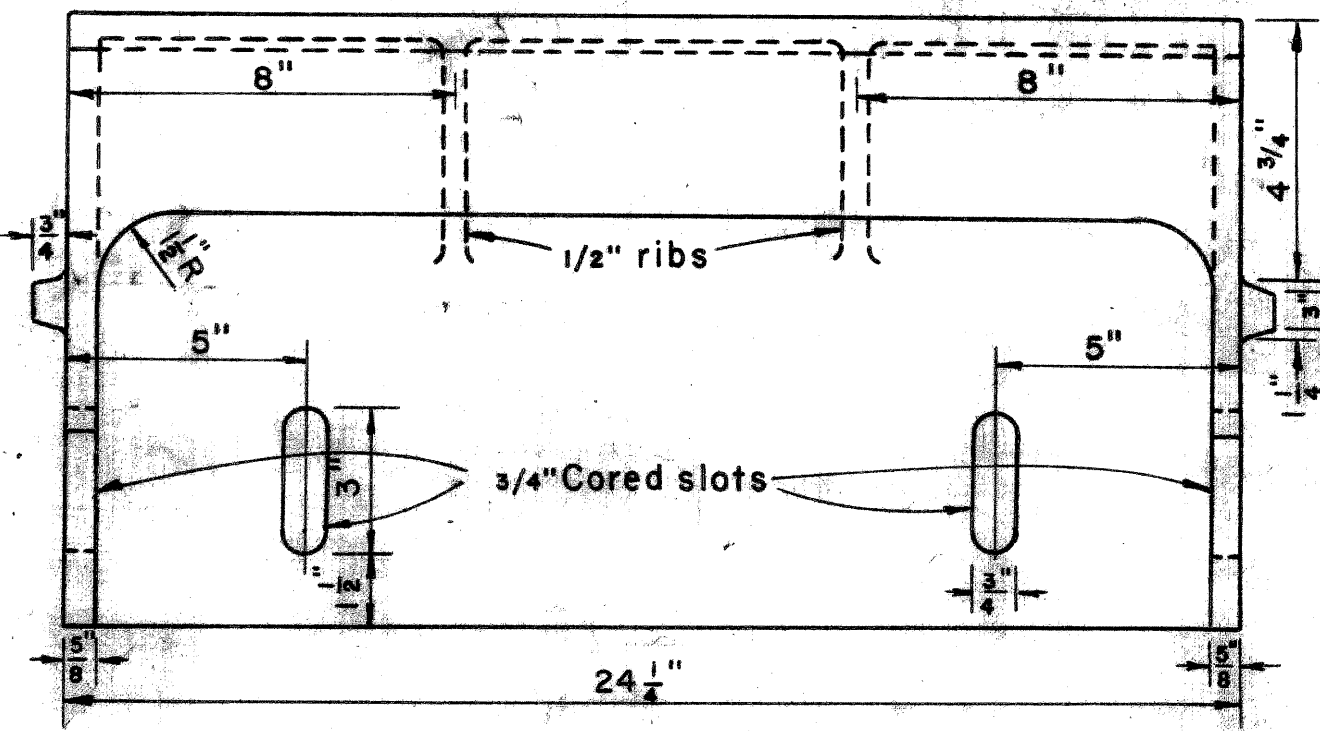
Bolt curb box firmly to frame at foundry with four 5/8" x 2 1/2" Galvanized Machine bolts with washers on nut ends. (See general note)



SIDE ELEVATION

DETAILS OF CURB BOX
Scale 1/4" = 1'

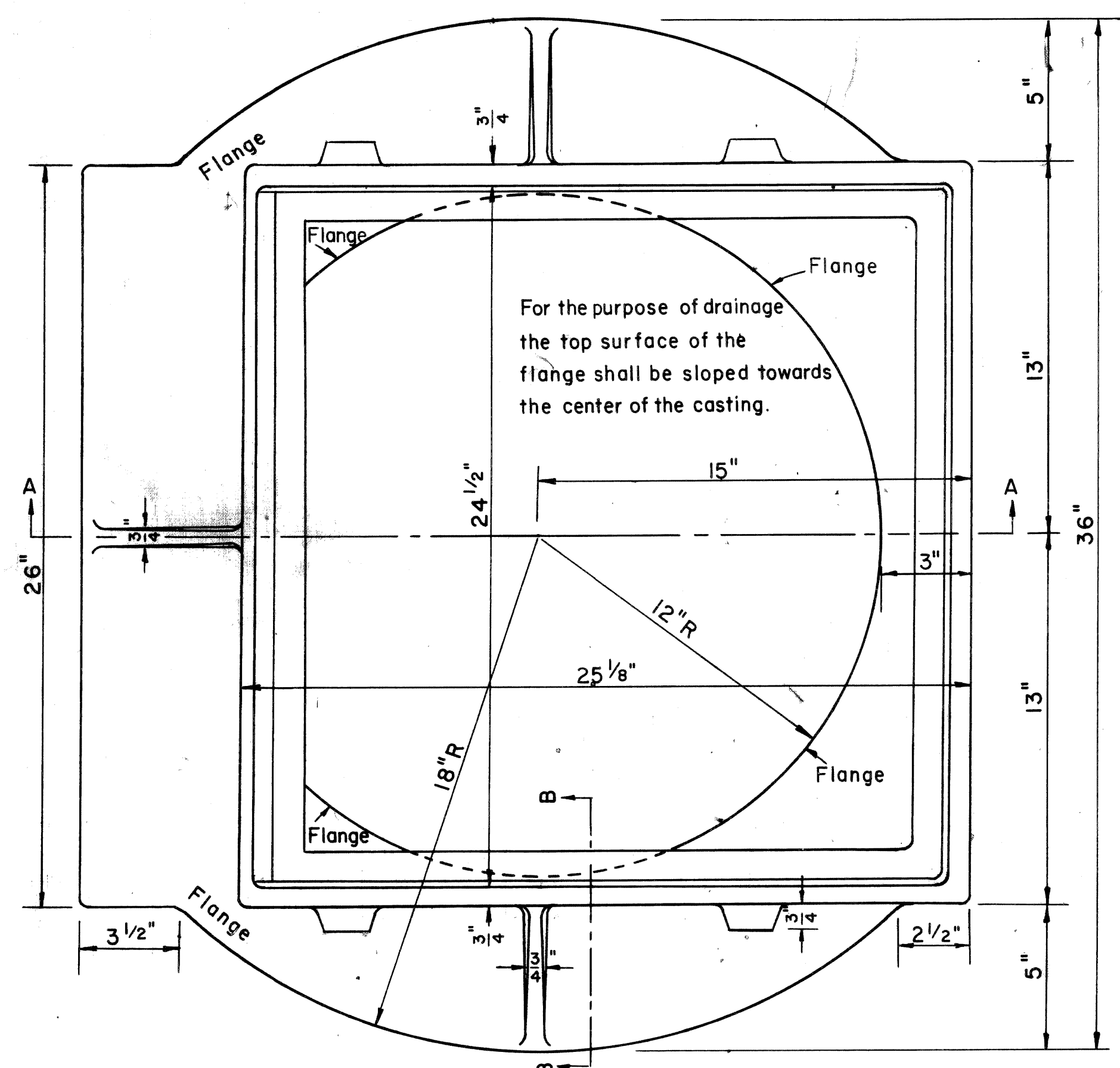
DETAILS OF GRATE
Scale 1/4" = 1'



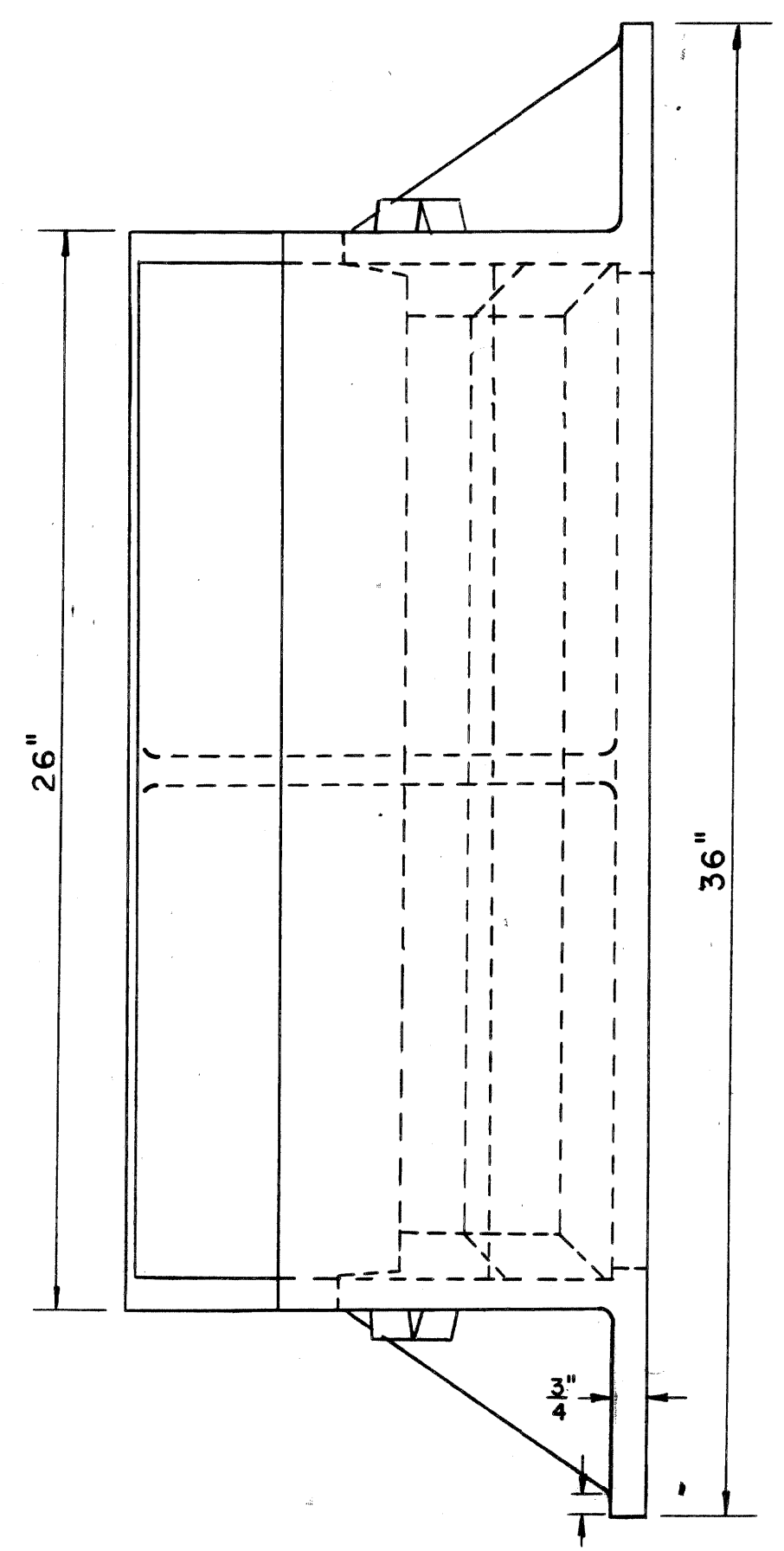
FRONT ELEVATION

SPECIAL DETAILS FOR COVER H

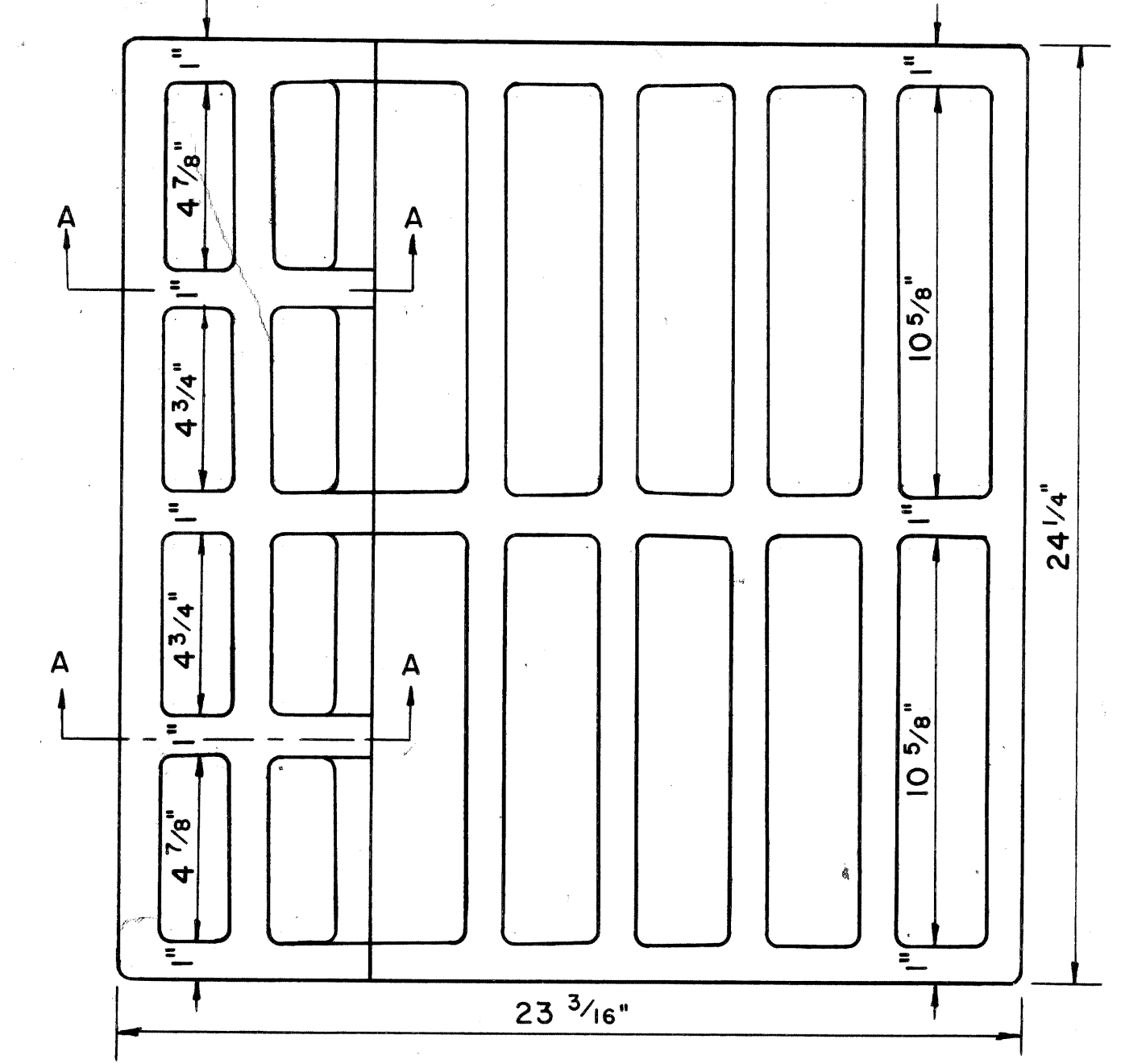
FED. ROAD DIST. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	UT 391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-163	WAYNE	Detroit		
D.P.C. DIV. NO.	MICH.	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4					
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS



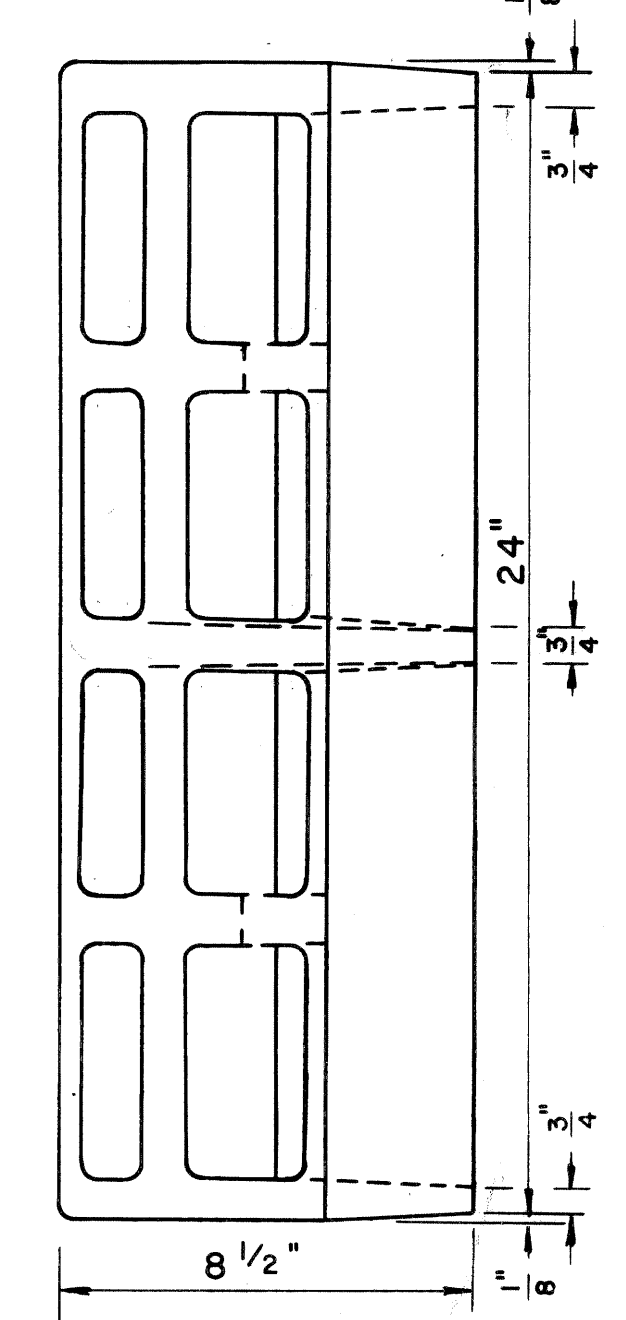
PLAN VIEW



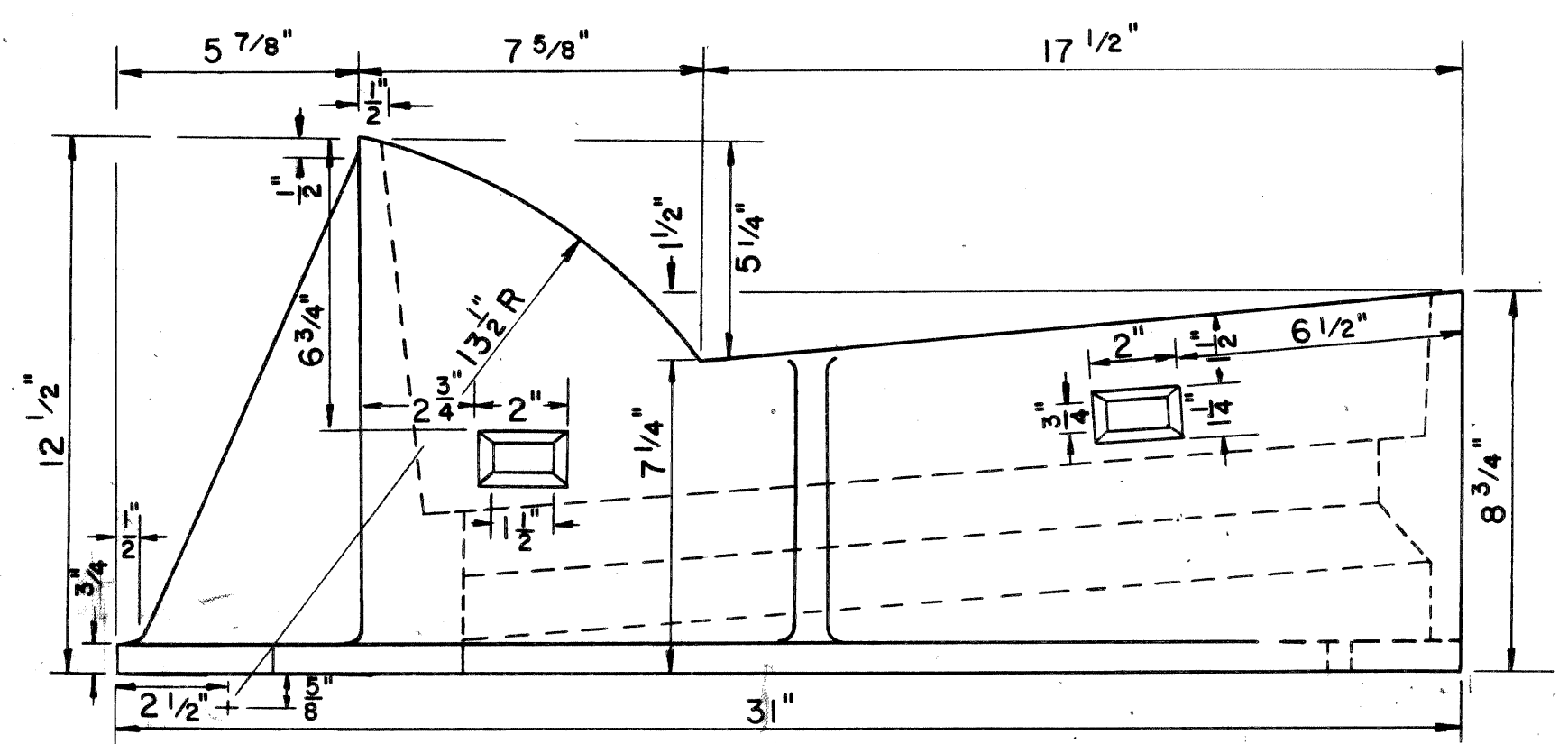
FRONT ELEVATION



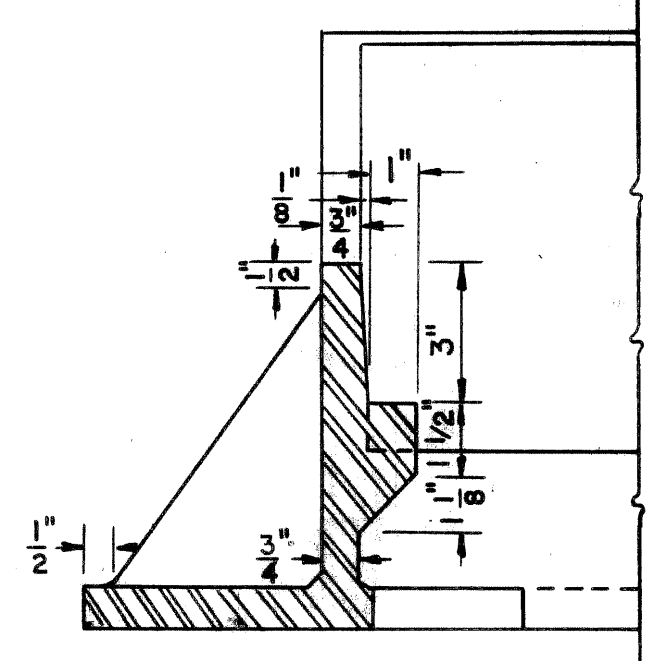
PLAN VIEW



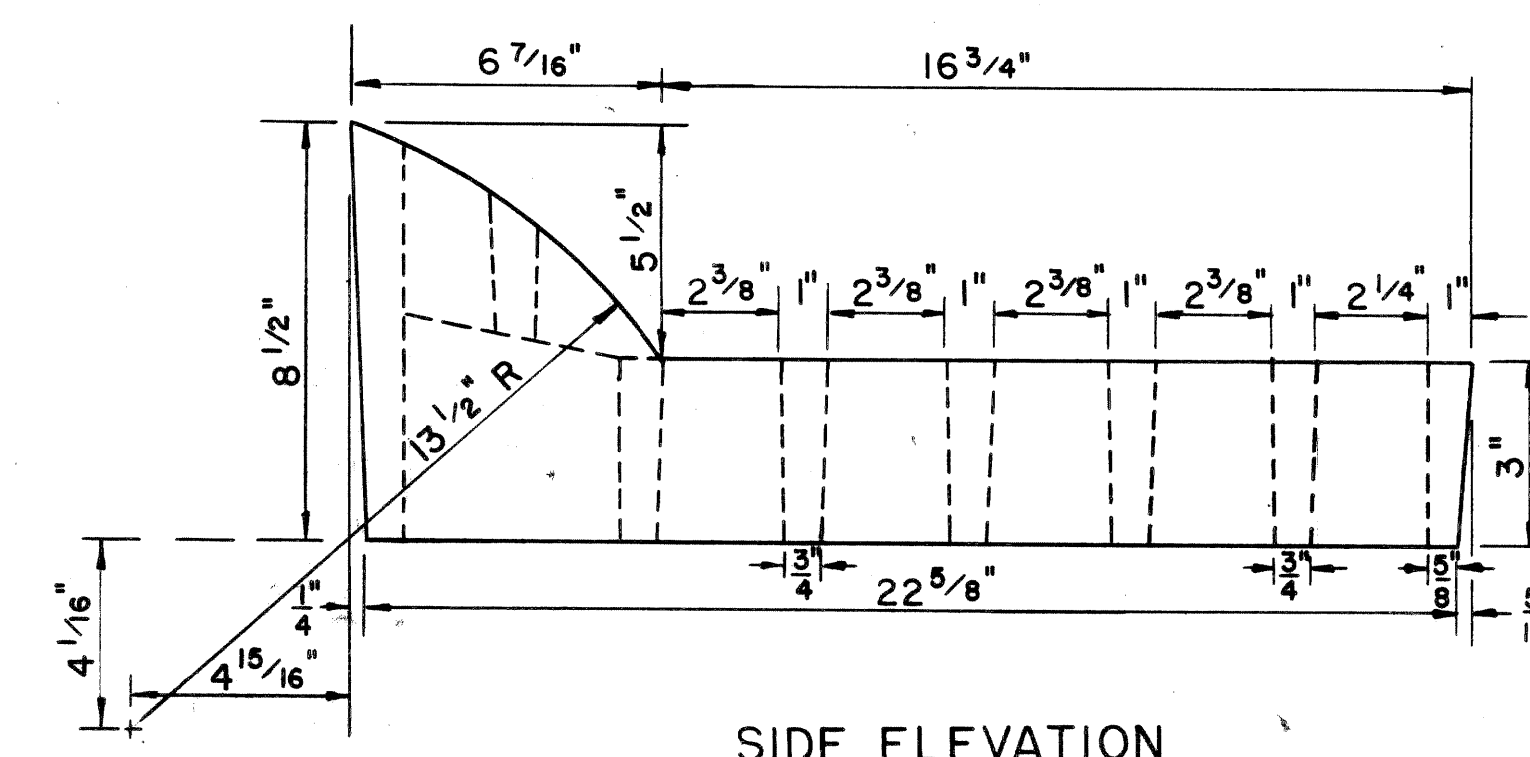
FRONT ELEVATION



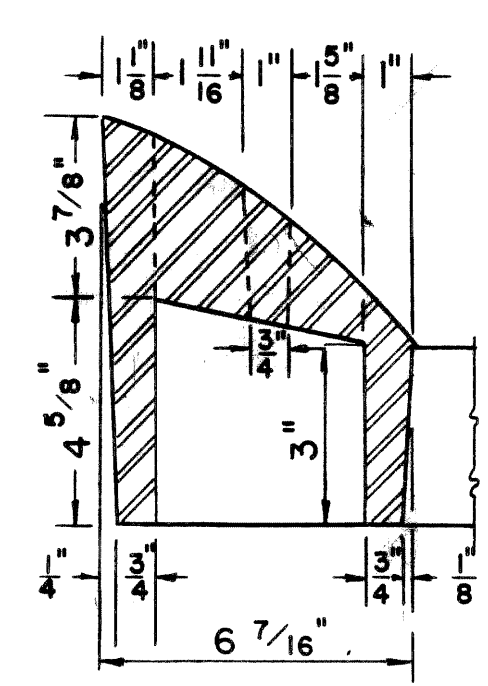
SIDE ELEVATION



SECTION B-B



SIDE ELEVATION



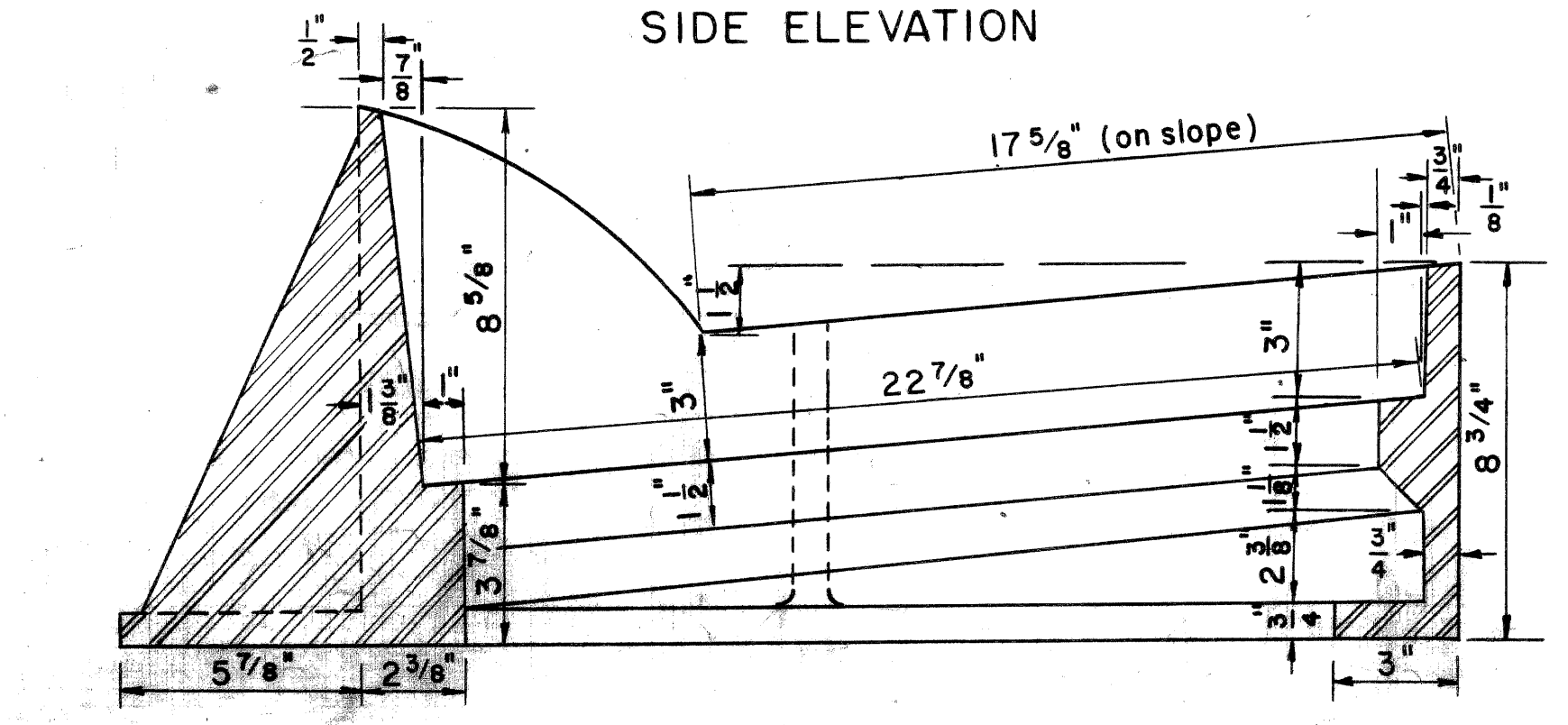
SECTION A-A

Notes:

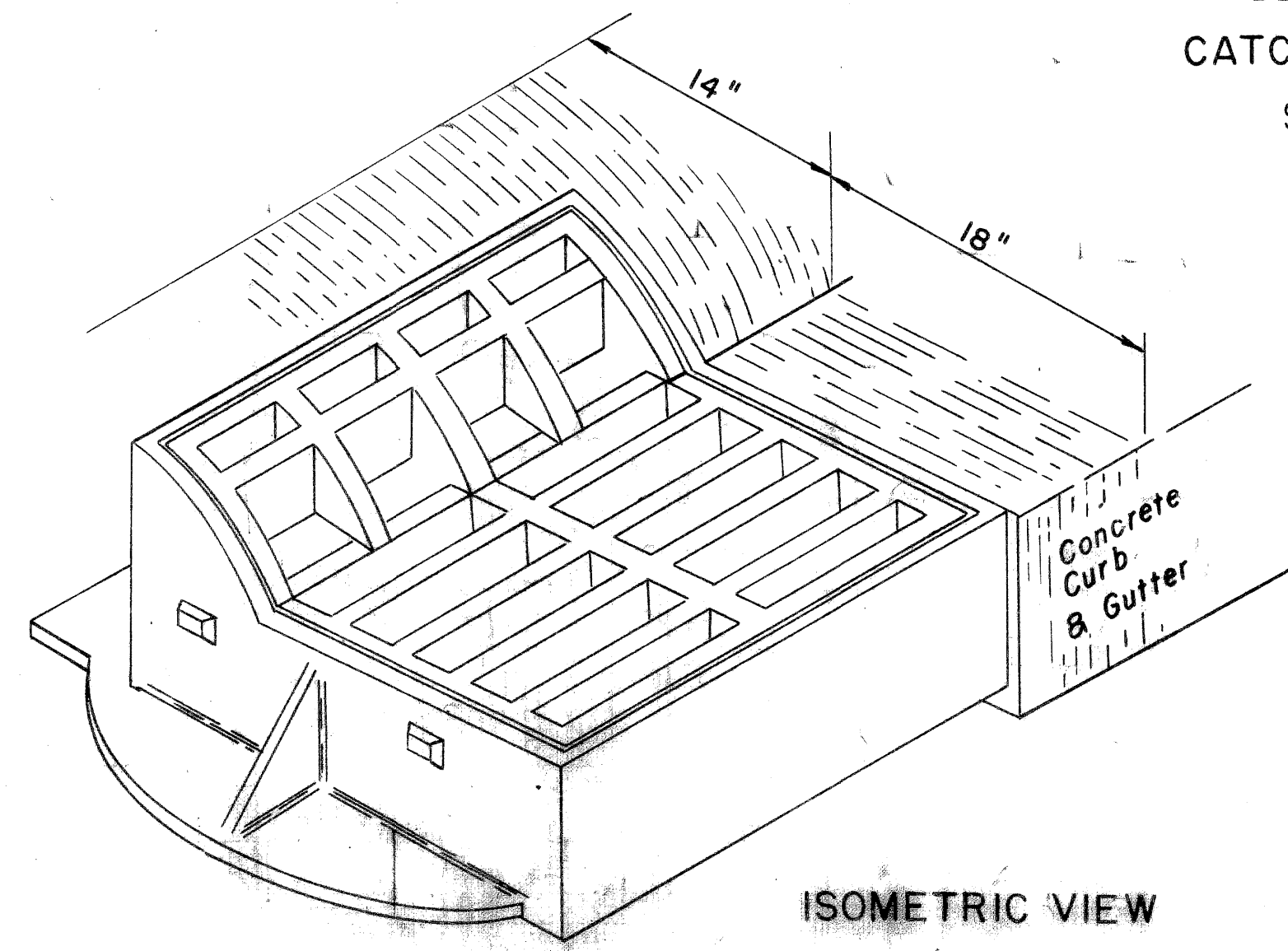
- All materials and workmanship shall be in accordance with the current Michigan State Highway Department Standard Specifications.
- The Castings shall meet the requirements of the current Specifications for Gray Iron Castings, A.S.T.M. Designation A48 and shall have a minimum strength as provided for class No. 30 Gray Iron Castings.
- All Castings shall be cleaned by sand blasting.
- The seating face of the Grate and the seat for same on the Frame shall be ground so that the grate shall have an even bearing on its seat to prevent rocking or tilting.
- The castings shall be free of pouring faults, blow holes, cracks, and other imperfections. They shall be sound, true to form and thickness, clean and neatly finished, and shall be coated with coal tar pitch varnish.

DETAILS OF CATCH BASIN FRAME
Scale 1/4" = 1"

DETAILS OF CATCH BASIN GRATE
Scale 1/4" = 1"



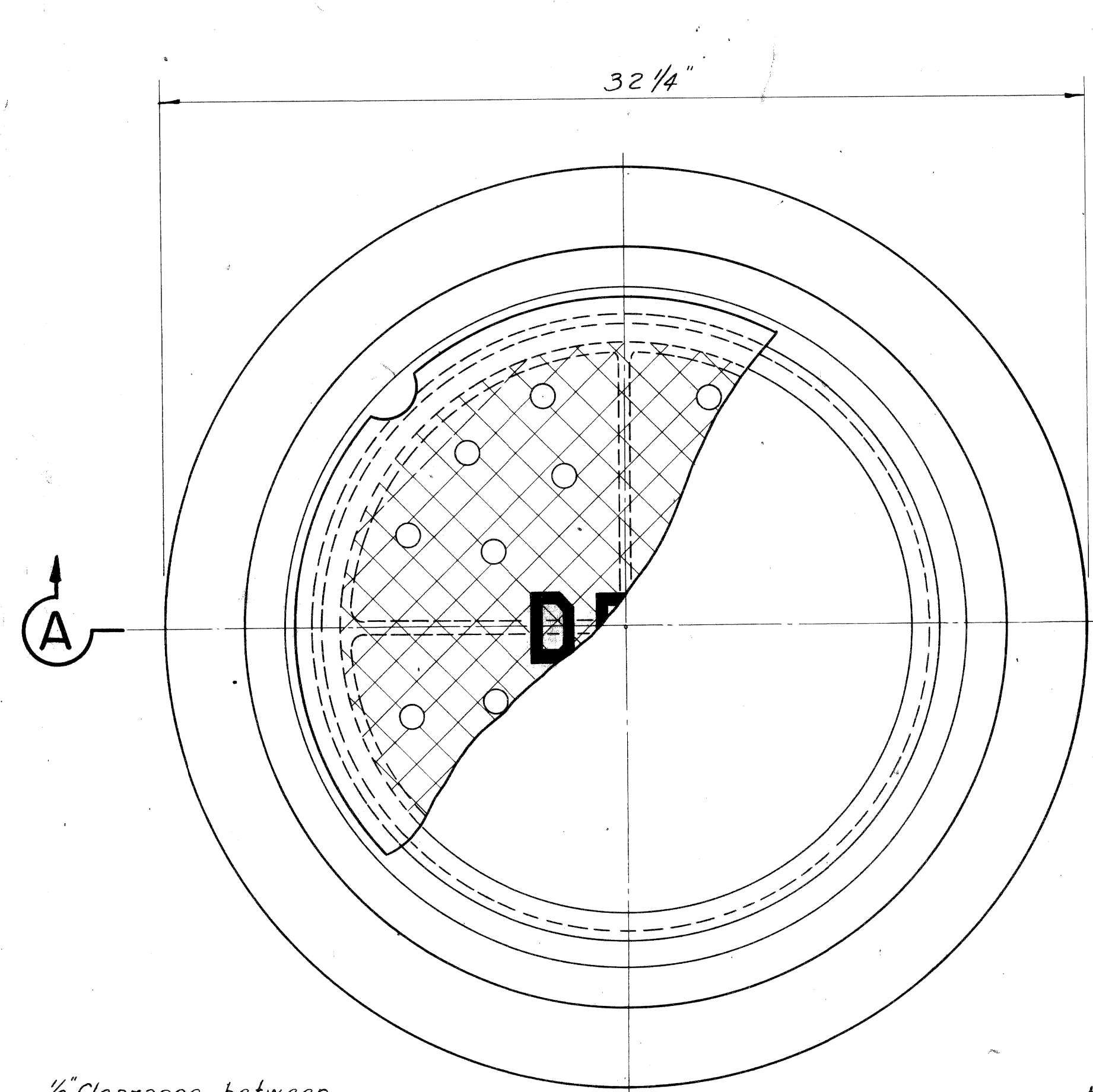
SECTION A-A



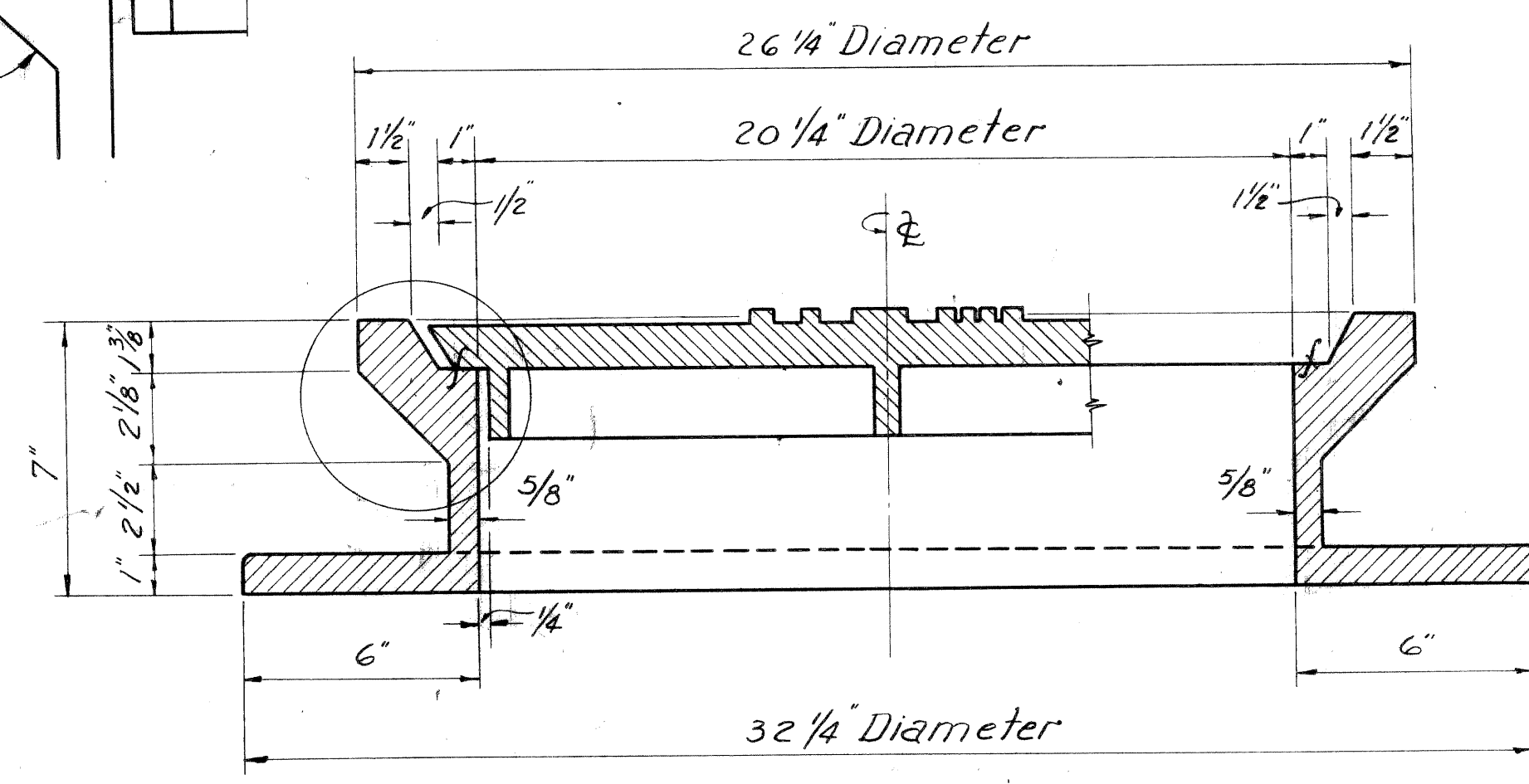
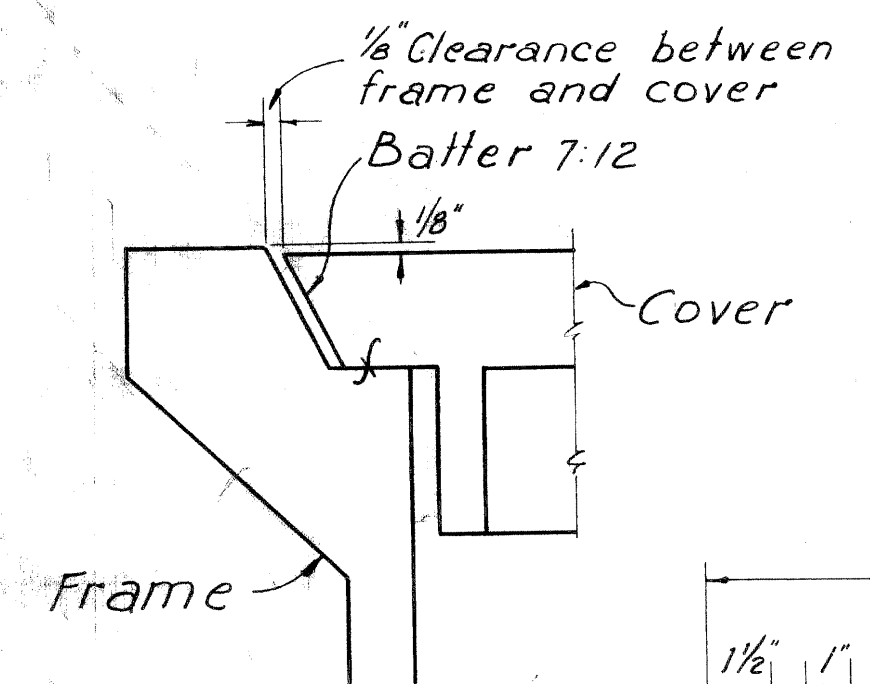
ISOMETRIC VIEW

SPECIAL DETAILS FOR COVER J

FED. ROAD DIST. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	UT 391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M-112	82-163	WAYNE	Detroit		
S.P.D. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS	



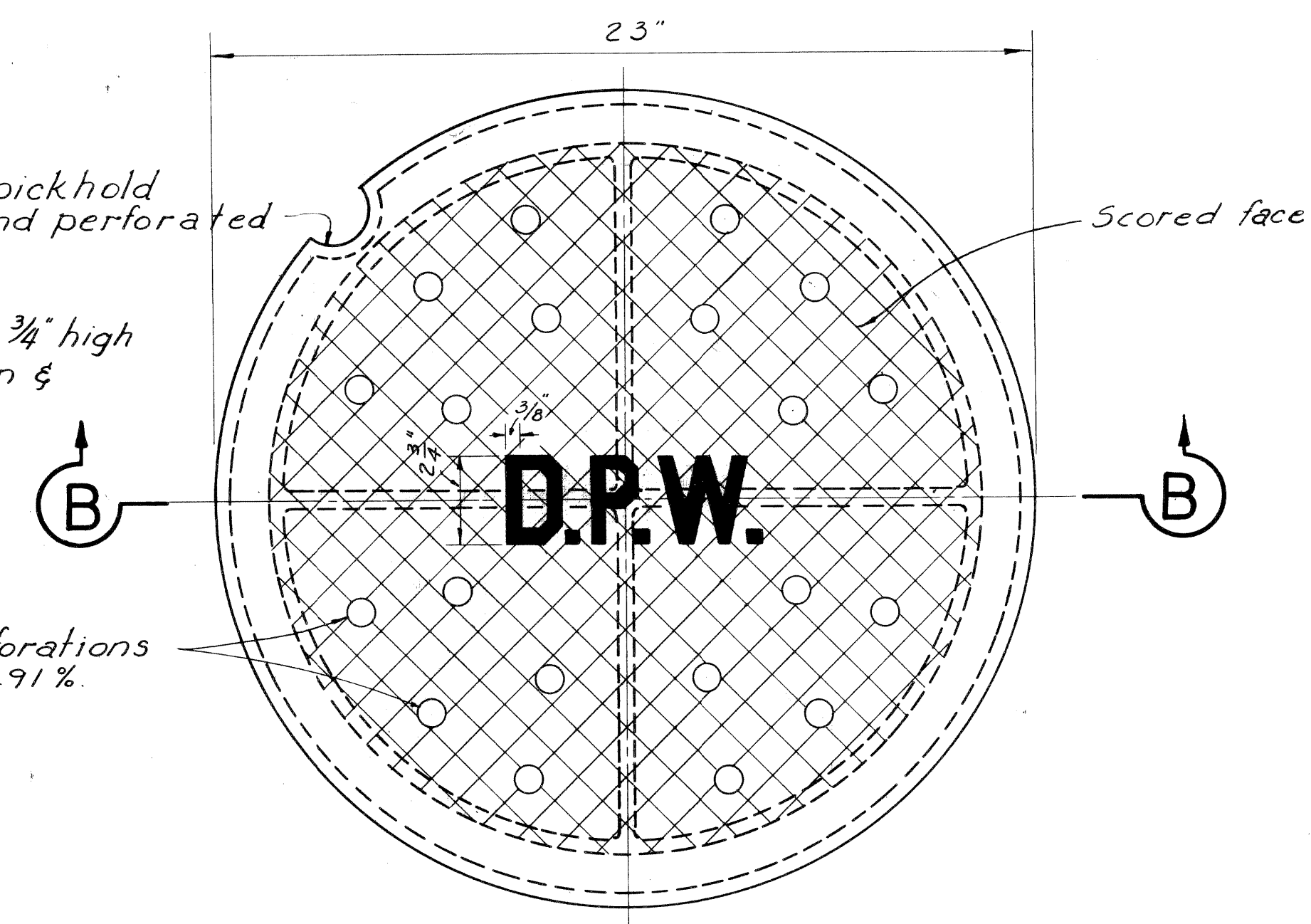
PLAN VIEW OF FRAME



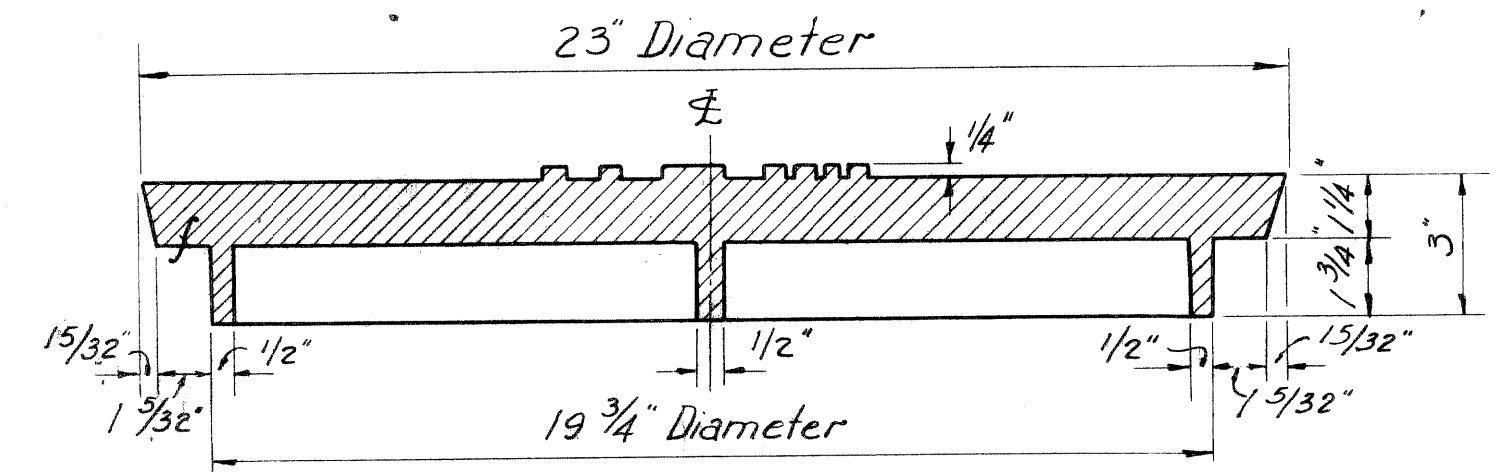
SECTION A-A

1" Radius pickhold in solid and perforated covers.
 Letters to be 3/8" wide 2 3/4" high and raised 1/4". Location & spacing as shown.

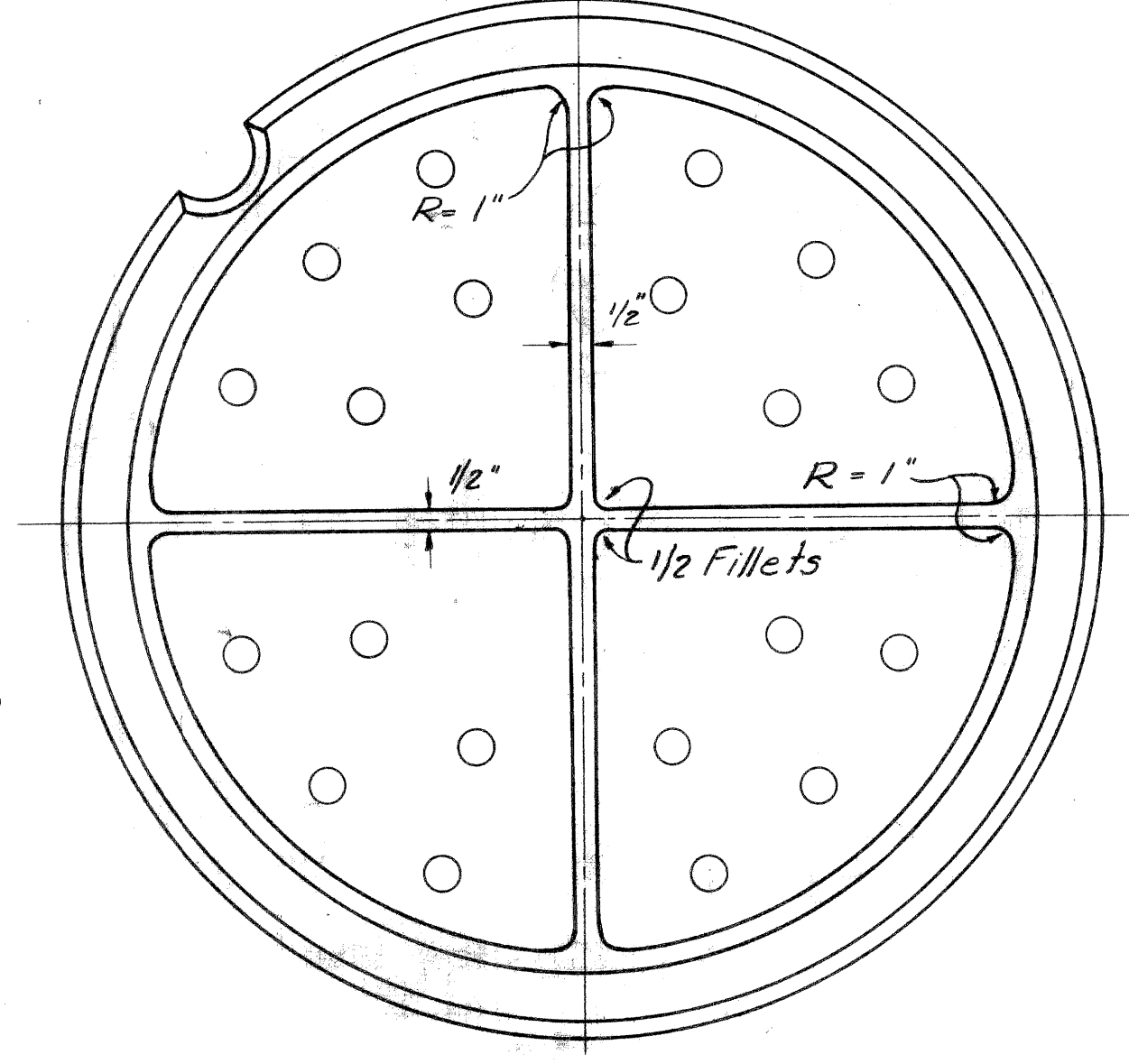
20-1/4" Dia perforations
 24.54 Sq.in. = 5.91%



PLAN VIEW OF COVER



SECTION B-B



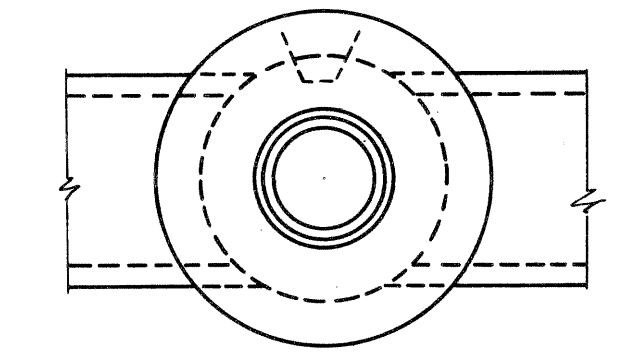
BOTTOM VIEW OF COVER

NOTES:-

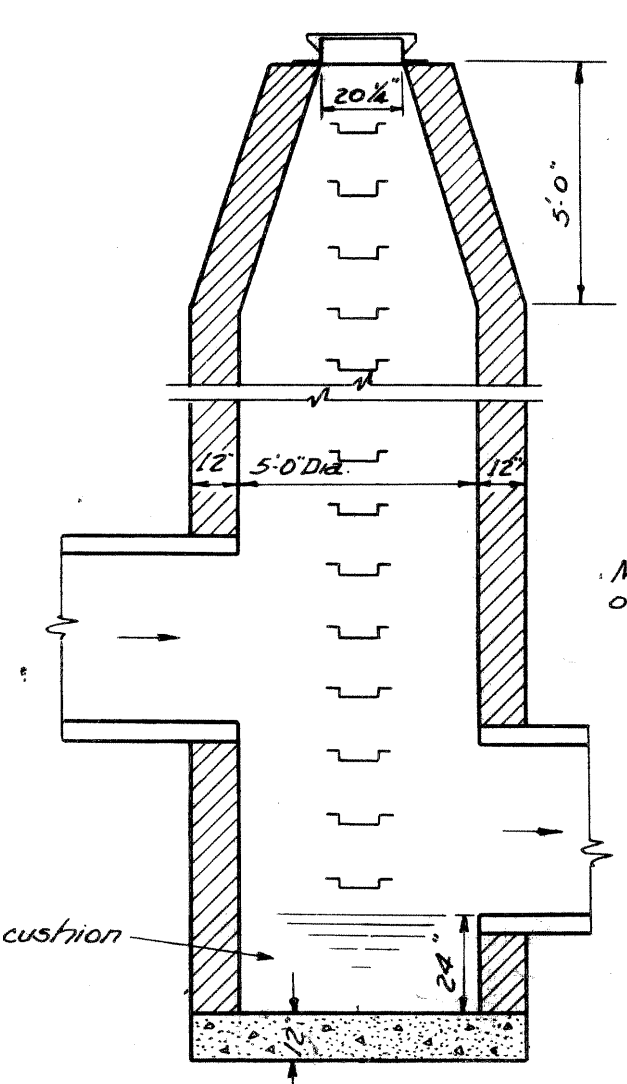
Frame and cover to be gray iron castings.
 Total weight = 409# (Perf cover)
 Manhole frame = 262#
 Cover (Perf) = 147#
 Cover (Blank) = 157#

The seating face of the cover and the seat for same on the frame shall be machine finished or the equivalent thereof so that the cover shall have an even bearing on its seat at all points without rocking or tilting.

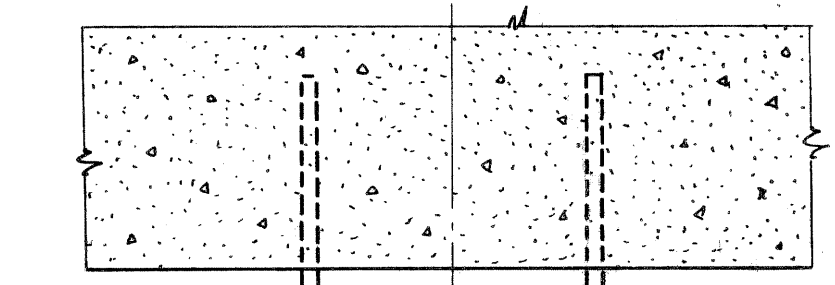
SCALE 3" = 1"



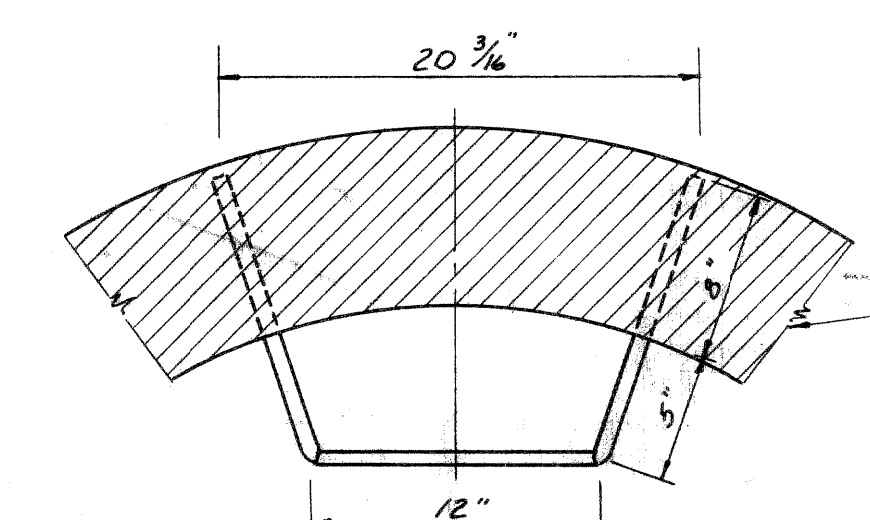
PLAN



SPECIAL 5' MANHOLE
 SCALE 1/4" = 1"



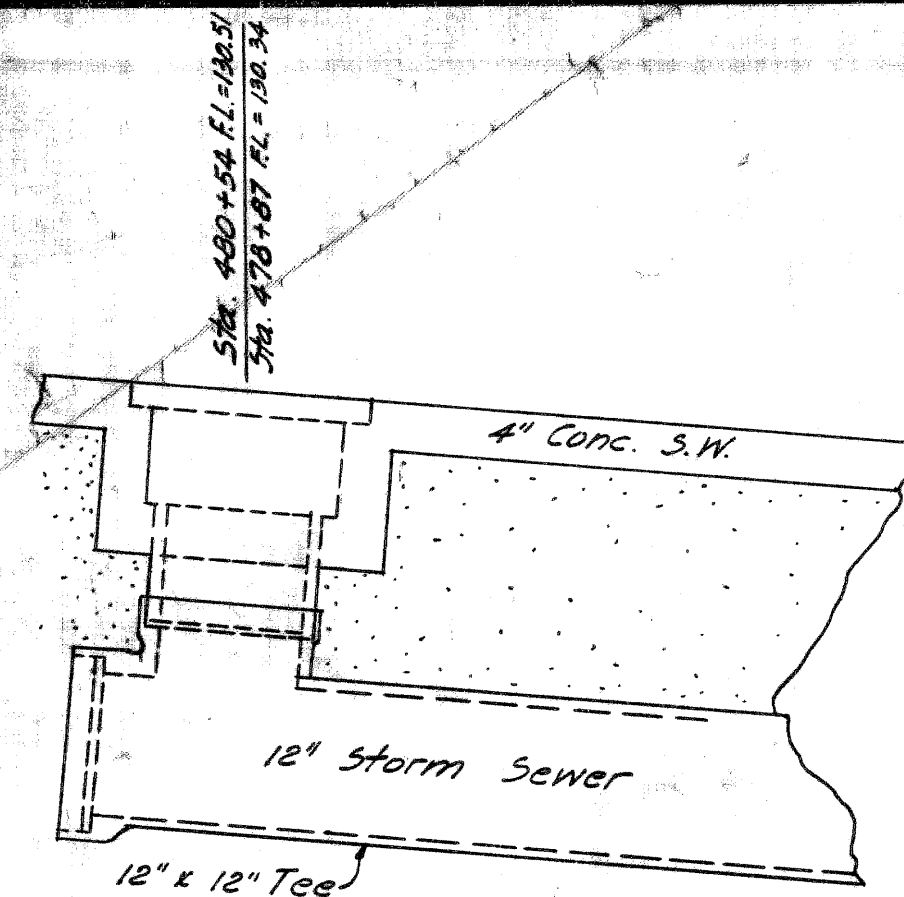
3/4" Wrought Iron or Mild Steel



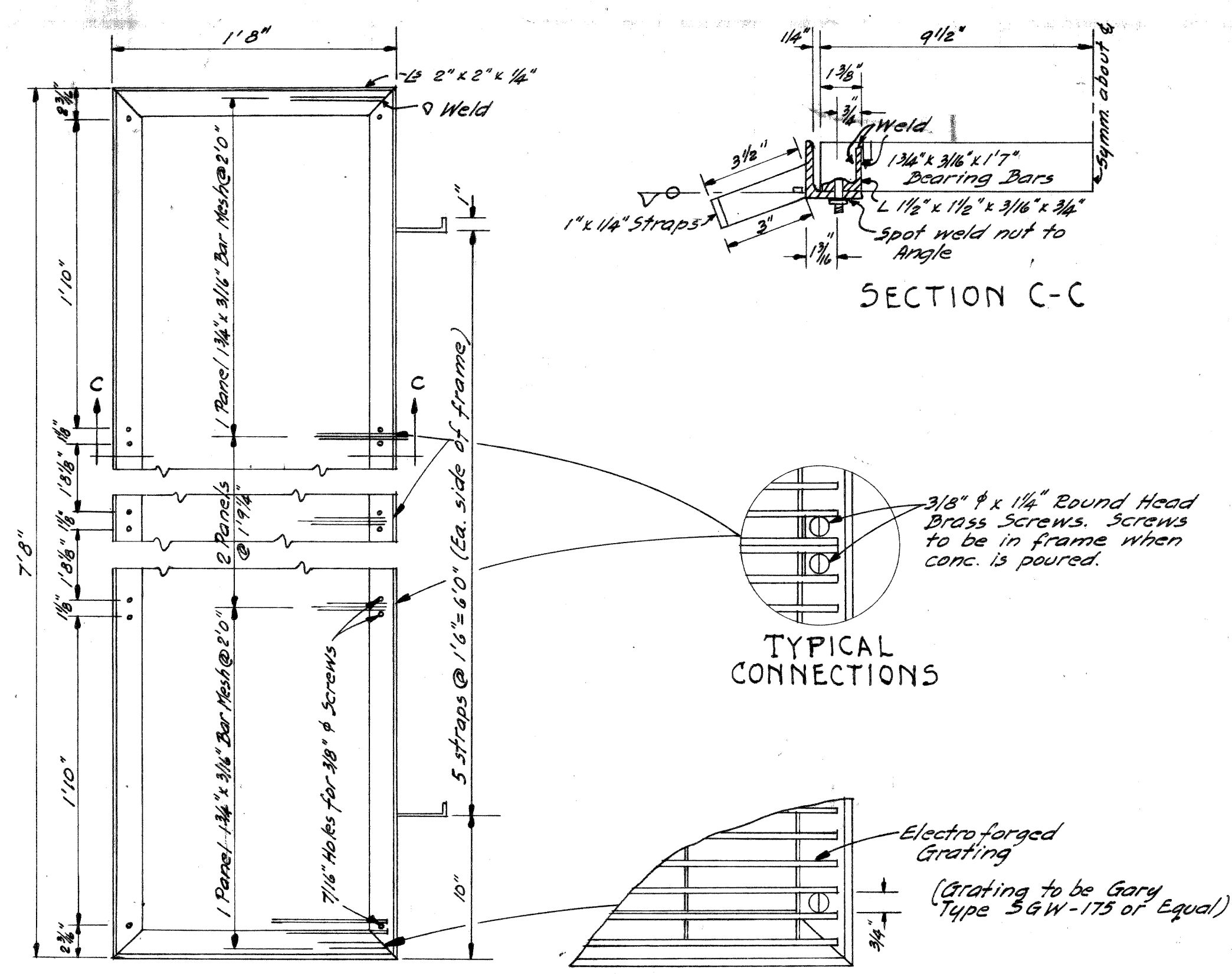
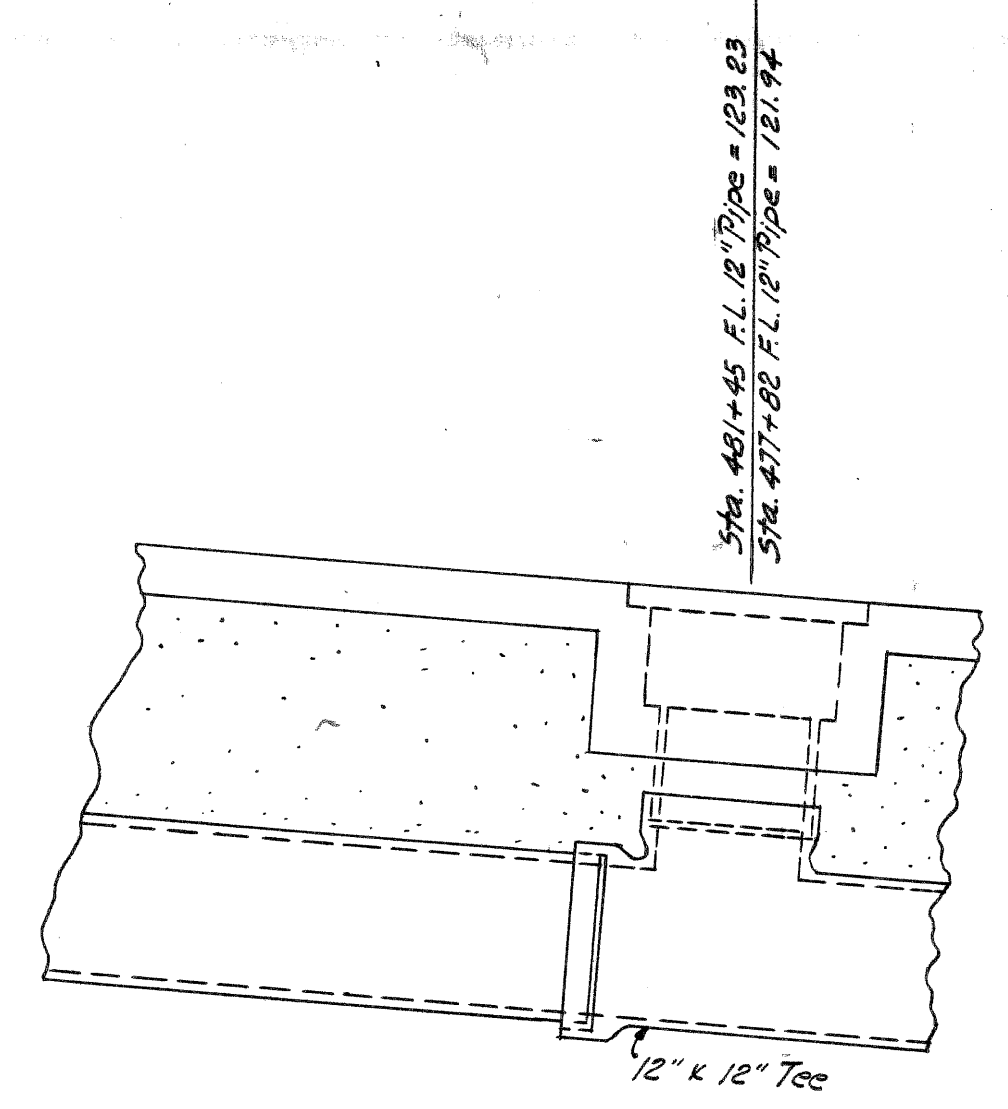
MANHOLE STEP
 SCALE 1/2" = 1"

SPECIAL DETAIL OF MANHOLE FRAME AND COVER AD AND SPECIAL 5' MANHOLE

FED. ROAD DIST. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
2	MICH.	U.I. 391.100			
ROUTE	STATE	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
M112	MI	Wayne	Detroit		
DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE	COUNTY	CITY	SHEET NO.	TOTAL SHEETS



SIDE ELEVATION (BUS LOADING ZONE RET WALL REMOVED)

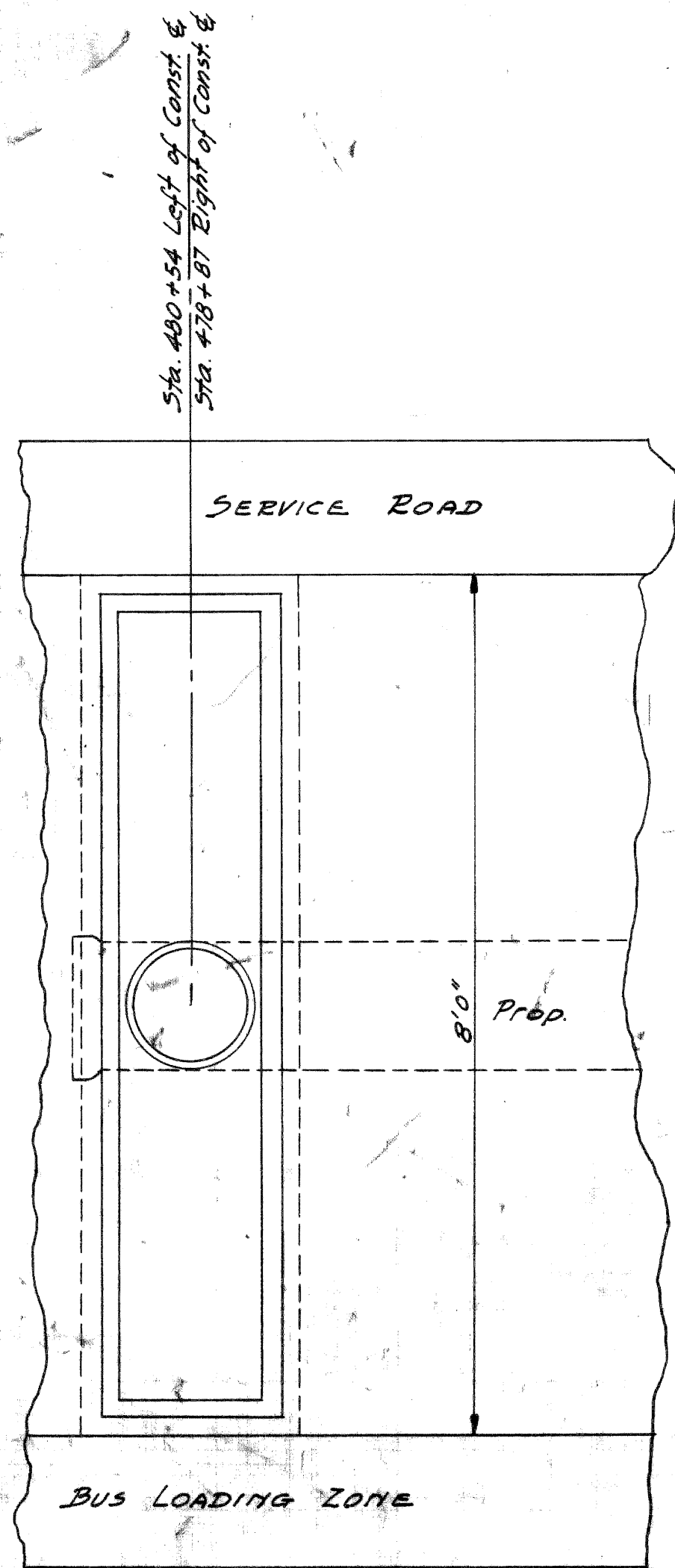


DRAIN FRAME & GRATING DETAILS
4 Req'd.

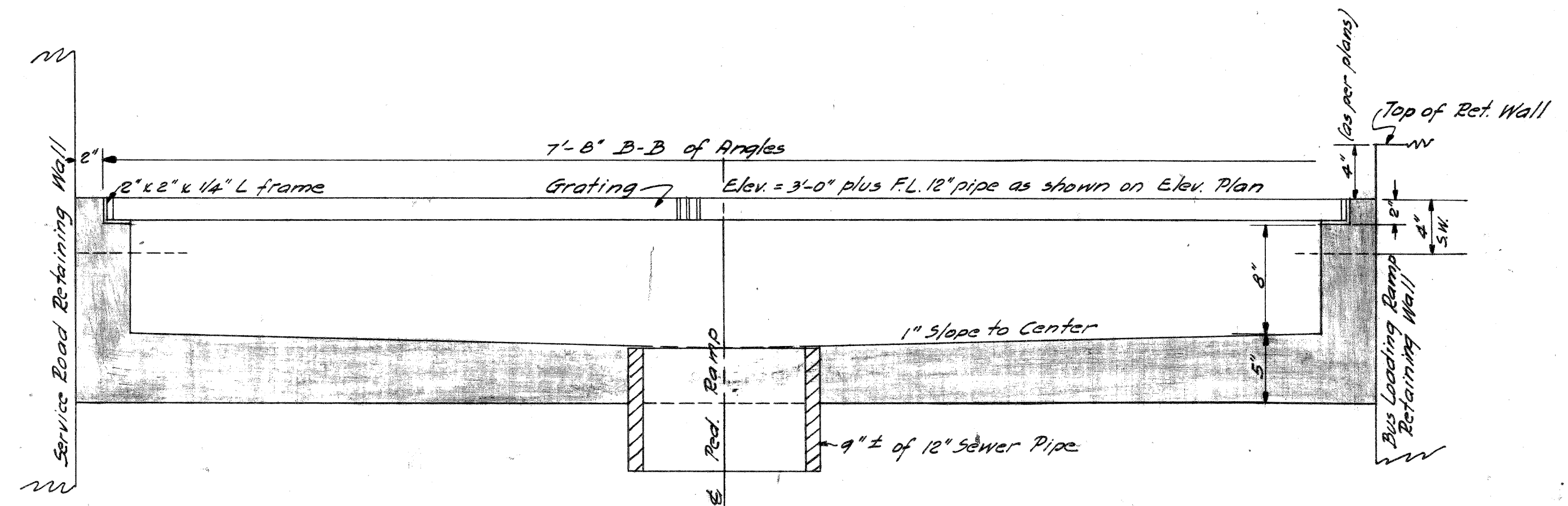
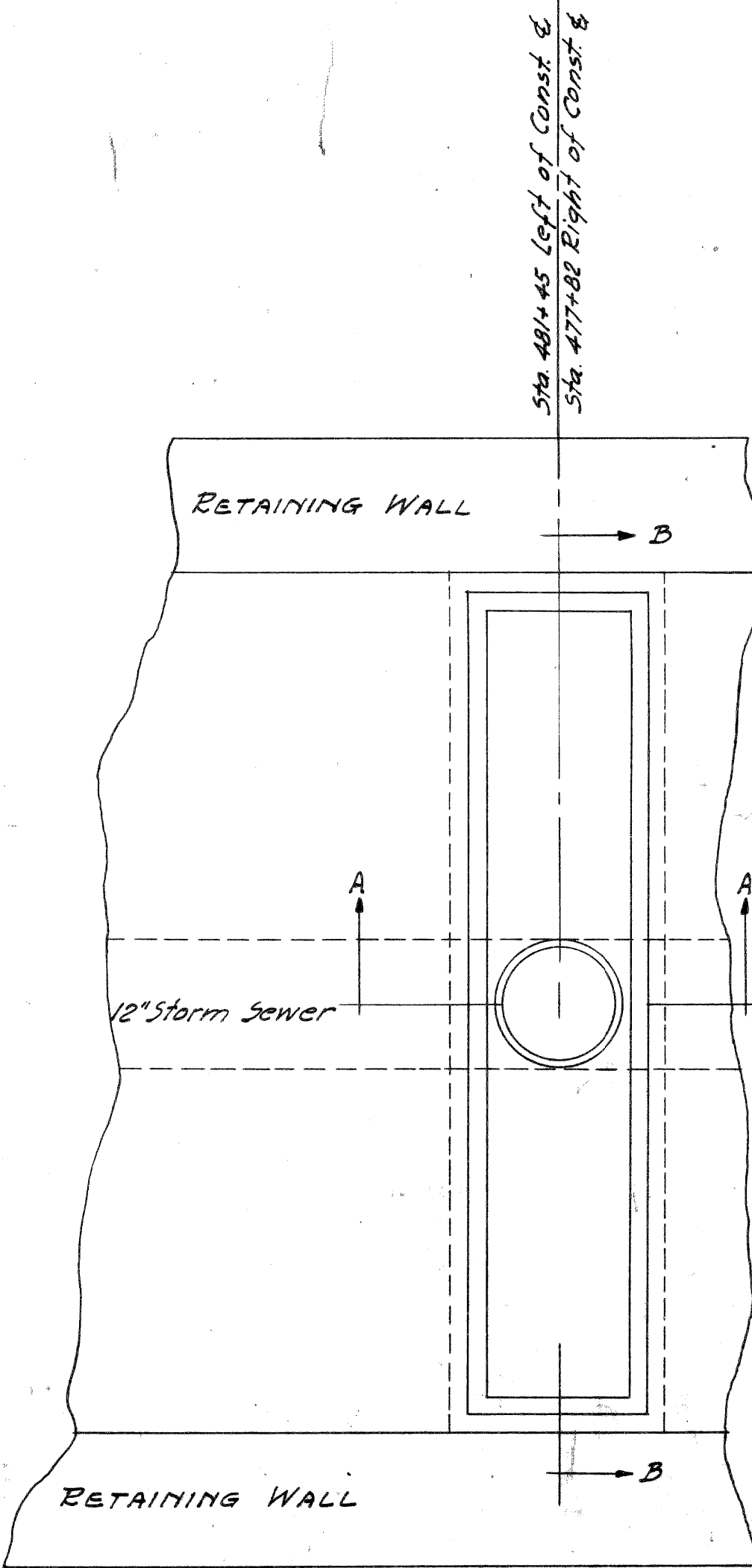
ANGLE IRON FRAME & GRATING (FOR I.C.B.)

No.	WT.	195
Angle Iron Frame	1	64
1 3/4\" x 3/16\" x 73\" Mesh (2' Panel)	2	195
1 1/2\" x 3/16\" x 73\" Mesh (1'-9 1/4\" Panel)	2	

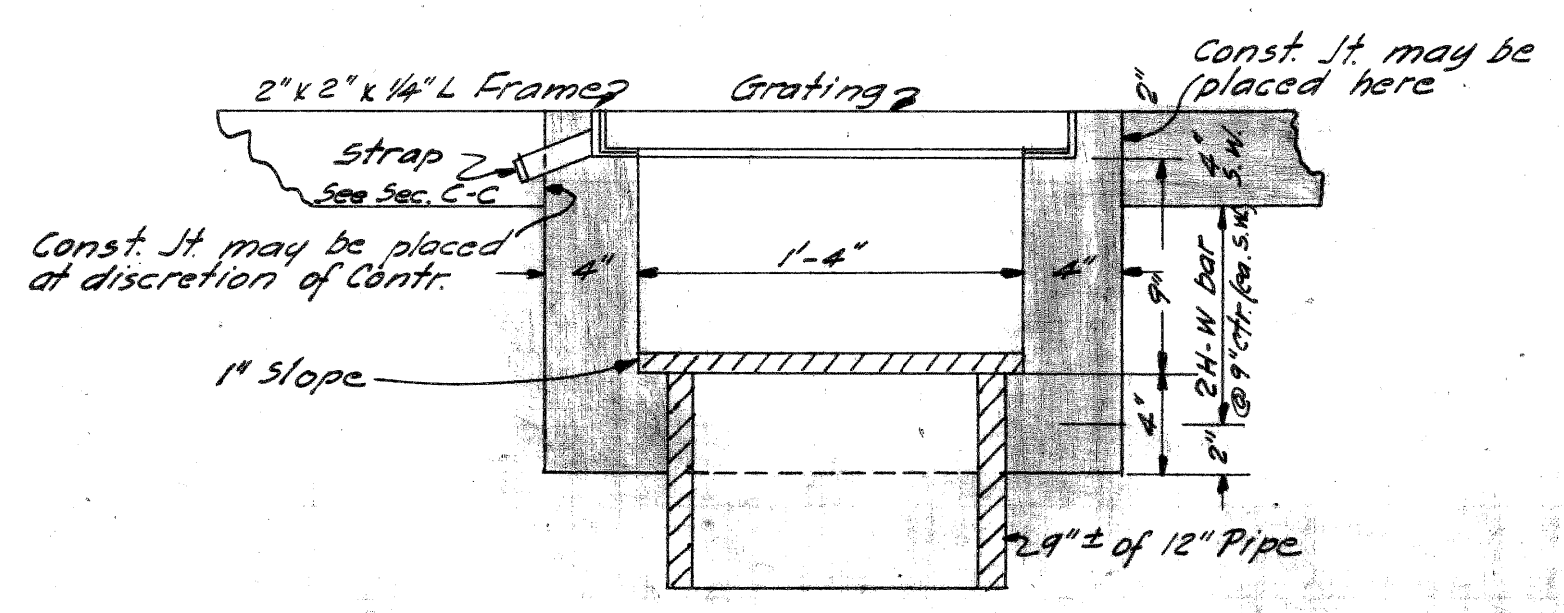
CATCH BASIN
H-W Bars 1/2\" x 7'-8\" 4 21#
Grade A Conc. 4 C.Y.



PLAN VIEW OF PEDESTRIAN RAMP



SECTION B-B



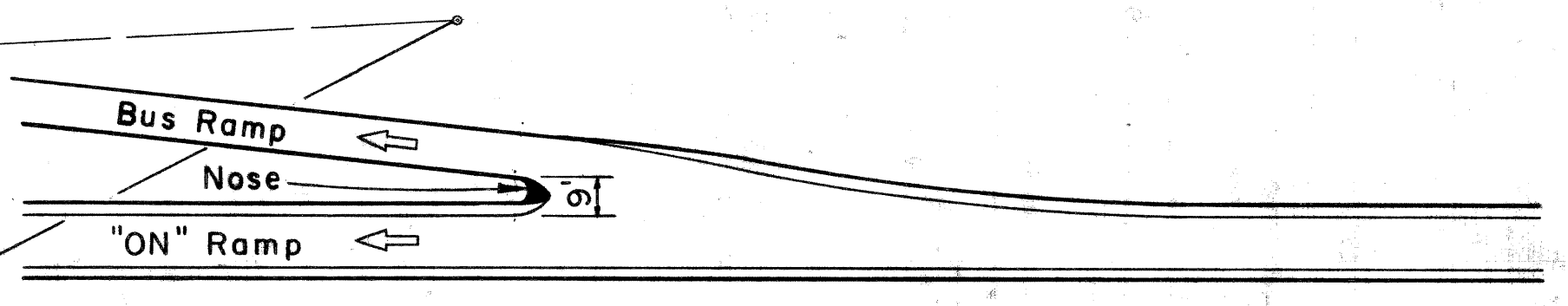
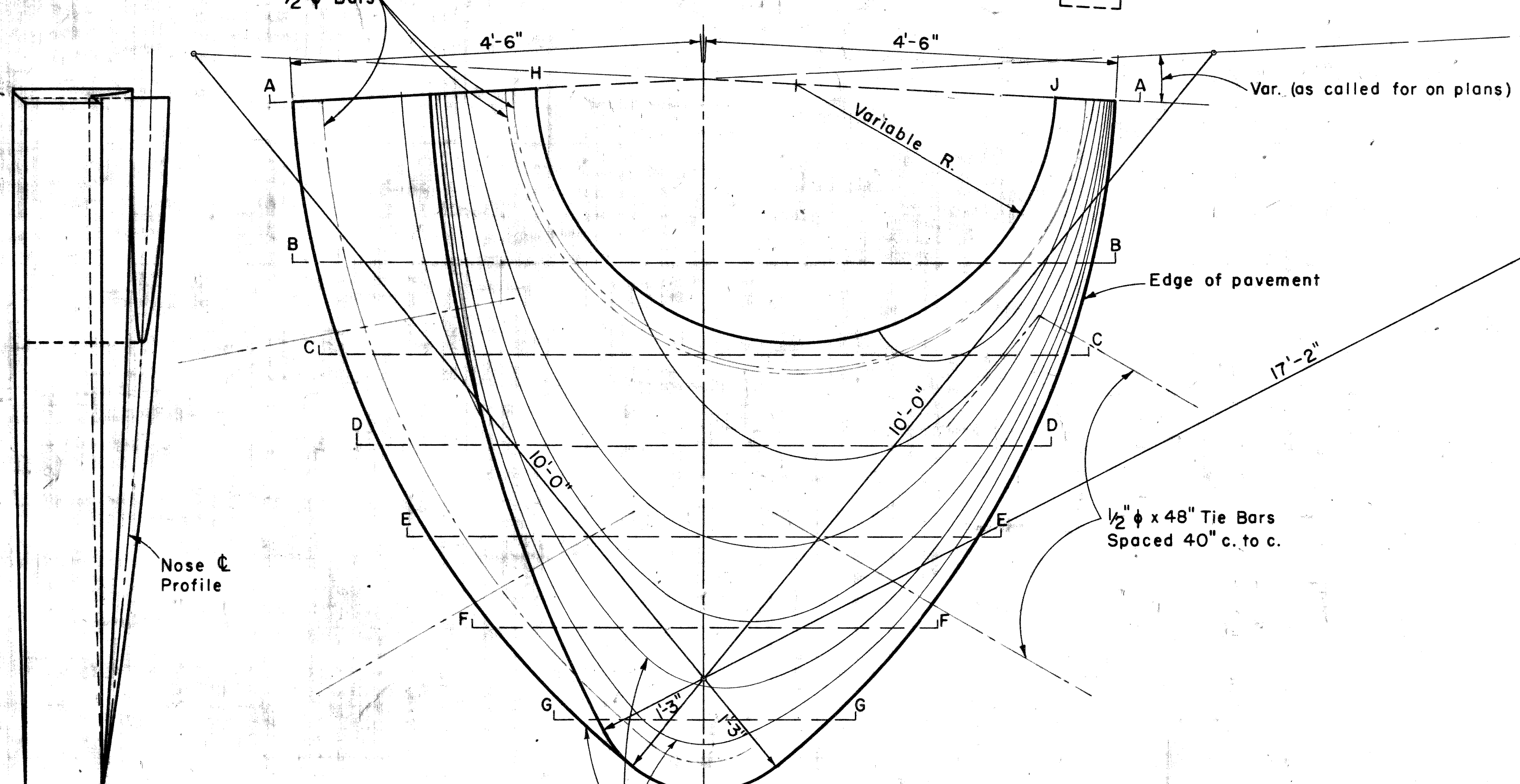
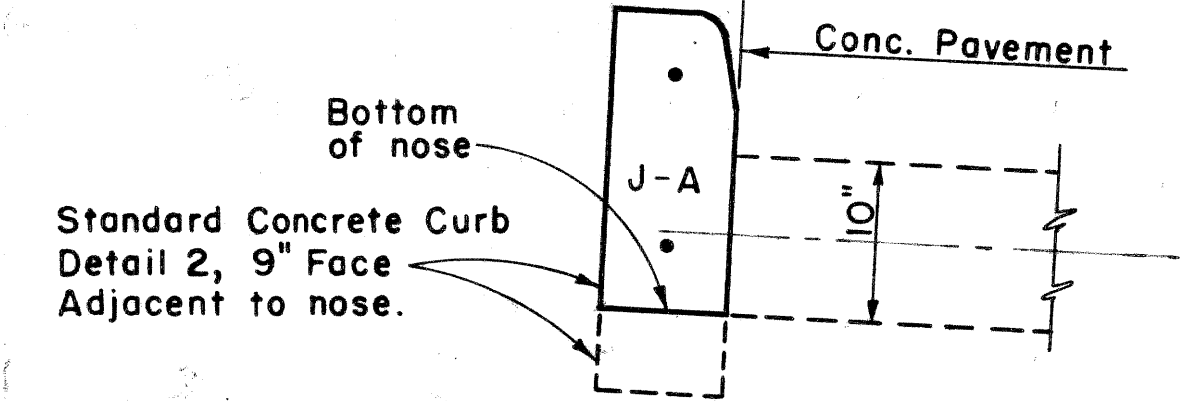
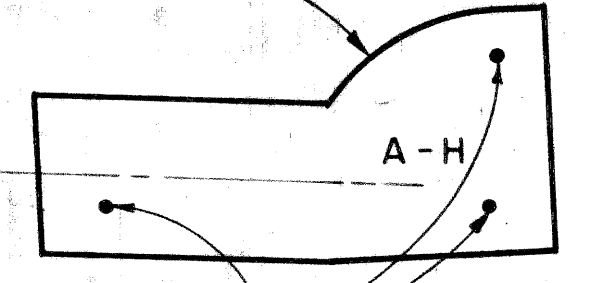
SECTION A-A

These Catch Basins & Grates are to be placed in Pedestrian Ramp Sidewalks at Sta. 480+54 & 481+45 Left of Const. & Sta. 477+82 & 478+87 Right of Const. &

GRAND RIVER AVE. BRIDGE APPROACHES
SPEC. GRATE FOR PED. RAMP
C.B.'s GRAND RIVER AVE. & E. FORD EXP'Y
Drawn by E.B.G. 12-16-52
Traced by A.L.D. 12-19-52
Checked by M.J.H. 12-18-52

FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	171 391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
	82-163	WAYNE	Detroit		
S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS	

Concrete Roll Curb and Gutter, Detail B, Section.



DETAIL OF BUS RAMP AND "ON" RAMP NOSE LOCATION WHERE CALLED FOR ON PLANS

Scale 1" = 40'

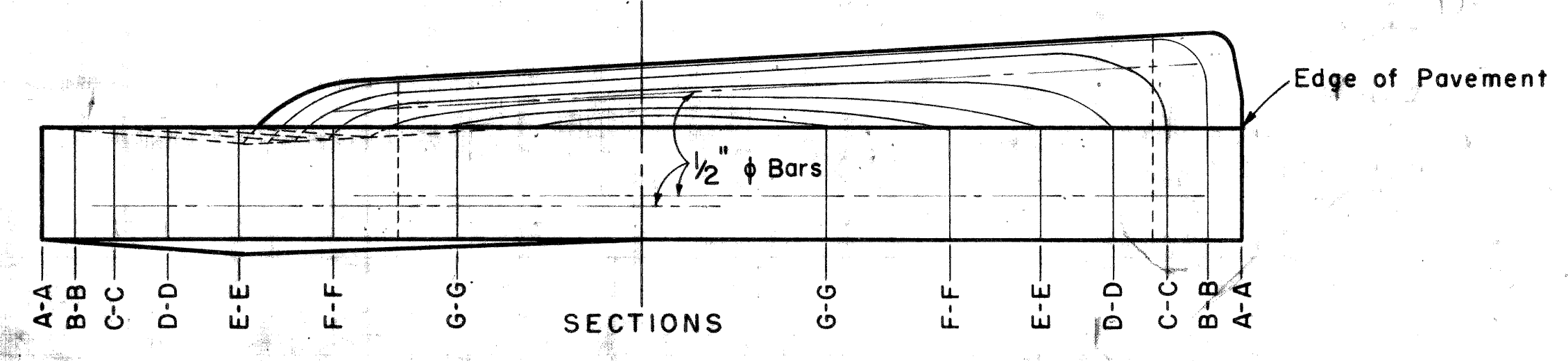
Quantities (each)

Steel	32 lbs.
Concrete	2 cu. yds.

Contour Interval is 0.10 ft.

PLAN

"ON" RAMP BUS RAMP



GENERAL DESIGN OF NOSE TO BE USED ON BUS RAMP AND "ON" RAMP WHERE CALLED FOR ON PLANS

Scale 1" = 1'

Notes: Noses will be warped to meet grade requirements as directed by the Engineer.

The general notes on Standard Plan E-4-A-29 D shall apply.

CONCRETE NOSE, DETAIL NO. 3

GRAND RIVER AVE. BRIDGE APPROACHES

Squad: Danielson IO-52

Drawn by: S.B. Foster IO-52

QUANTITY SHEET - D

SURFACING (SQ. YD.) - CURB AND GUTTER (LIN. FT.)

FED. ROAD DIV. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH	UI 391 (49)			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
82-163	WAYNE	Detroit			

AS PER PLANS

AS CONSTRUCTED

STA. TO STA.	LENGTH	WIDTH	REMARKS														STA. TO STA.	LENGTH	WIDTH	EXPLANATION OF CHANGES				
			REMOVING PAVEMENT 10" UNIFORM SQ. YDS.	CONCRETE BASE COURSE 6" UNIFORM SQ. YDS.	CONCRETE WEAR SURF 4" UNIFORM SQ. YDS.	BITUMINOUS CONCRETE WEAR SURF 2" UNIFORM SQ. YDS.	BITUMINOUS CONCRETE WEAR SURF 1.5" UNIFORM SQ. YDS.	CONCRETE PAVEMENT 7" UNIFORM SQ. YDS.	CONCRETE PAVEMENT 4" UNIFORM SQ. YDS.	AGGREGATE BASE COURSE (LOOSE MEAS) CU. YDS.	BIT PRIME COAT MC-10 GALS.	CONCRETE CURB & GUTTER DETAIL A LIN. FT.	CONCRETE CURB & GUTTER DETAIL B LIN. FT.	CONCRETE CURB DET. 2 6" CURB FACE LIN. FT.	CONCRETE CURB DET. 2 6" CURB FACE LIN. FT.	CONCRETE CURB DET. 2 9" CURB FACE LIN. FT.					CONCRETE CURB DET. 2 9" CURB FACE LIN. FT.			
GRAND RIVER AVE.																								
7+92	12+62		Includes approaches Rt & Lt																					
KIRBY AVE.																								
32+77.8	33+89																							
TEMPORARY ROAD																								
0+62	7+37																							
EXPRESSWAY																								
472+30	476+80	Rt & Lt	Lawton Temp. Ramp & Lawton Ave.																					
476+80	478+67	Rt & Lt																						
481+08	484+07	Rt & Lt																						
GRAND RIVER AVE.																								
7+91.96	8+69	77.02	72	616.3	616.3	73.0	100																	
11+18.79	12+61.69	142.90	Var.	1385.6	1385.6	159.9	218																	
6+61	7+92	Lt						51	131															
7+92	8+92	Rt								29														
8+65	8+92.03	Lt									44													
10+23.86	11+32	Rt																						
11+45	11+89	Lt							119															
11+55	12+62	Rt																						
13+00	13+50	Lt								139														
KIRBY AVE.																								
27+70	Lt					5.6	8																	
32+77.8	33+35	57.22	30	190.7	190.7	21.0	29																	
33+35	33+89	54	Var.	236.4	236.4	27.8	35																	
32+26	33+89	Lt																						
32+70	33+89	Rt							135	165														
TEMPORARY ROAD																								
0+62	7+37	72' & Var.	675															5222						
6+60	6th River It					2.5		5	6															
0+06	Lt Temp Road					18.6		46	85															
0+06	5+88 Lt																							
6+60	6th River It																							
2+20	Lt Temp Road									240														
NORTH SERVICE ROAD																								
478+98.5	479+85	86.50	Var.	481.6	481.6	54.3	74																	
479+85	482+22.8	237.80	30	792.7	792.7	87.2	119																	
482+22.8	482+88.8	66	Var.	298.9	298.9	32.9	45																	
482+88.8	485+02	213.20	30	710.7	710.7	78.2	106																	
478+78	485+02	Lt							655															
479+24	479+85	Rt								74														
479+85	485+02	Rt								517														
TOTALS			For Totals See Sht. # 82																TOTALS					

MANHOLES, CATCH BASINS, INLETS (EACH) - SEWER (LIN. FT.)

AS PER PLANS			AS CONSTRUCTED			EXPLANATION OF CHANGES	AS PER PLANS		AS CONSTRUCTED		REMARKS																	
STA. TO STA.	LENGTH	WIDTH	STA. TO STA.	LENGTH	WIDTH		STATION	REMOVING ASPHALT SURFACE SQ. YDS.	STATION	REMARKS																		
GRAND RIVER																												
						7+92	48																					
						12+62	48																					
MISSOURI																												
						479+52 Lt	12																					
KIRBY																												
						27+70 Lt	51																					
						31+20	20																					
						33+89	17																					
TOTALS			TOTALS			TOTALS	196	TOTALS																				
MISCELLANEOUS																												
AS PER PLANS			AS CONSTRUCTED			MONUMENT BOXES = EACH		MONUMENT BOXES = EACH																				
*CLASS SEEDING = ACRES																												
*To be done by Maintenance Division																												
<table style="width: 100%; border-collapse: collapse;"> <tr> <td>LENGTH OF 10 FOOT PAVEMENT</td> <td>=</td> <td>0.328 MILES</td> </tr> <tr> <td>" " 12.5 " "</td> <td>=</td> <td>0.164 "</td> </tr> <tr> <td>" " 30 " "</td> <td>=</td> <td>0.135 "</td> </tr> <tr> <td>" " 36 " "</td> <td>=</td> <td>0.260 "</td> </tr> <tr> <td>" " 72 " "</td> <td>=</td> <td>0.042 "</td> </tr> <tr> <td>TOTAL LENGTH OF PROJECT</td> <td>=</td> <td>0.042 "</td> </tr> </table>											LENGTH OF 10 FOOT PAVEMENT	=	0.328 MILES	" " 12.5 " "	=	0.164 "	" " 30 " "	=	0.135 "	" " 36 " "	=	0.260 "	" " 72 " "	=	0.042 "	TOTAL LENGTH OF PROJECT	=	0.042 "
LENGTH OF 10 FOOT PAVEMENT	=	0.328 MILES																										
" " 12.5 " "	=	0.164 "																										
" " 30 " "	=	0.135 "																										
" " 36 " "	=	0.260 "																										
" " 72 " "	=	0.042 "																										
TOTAL LENGTH OF PROJECT	=	0.042 "																										
TOTALS			TOTALS																									

PLAN ESTIMATE BY Reiniche DATE 10-52 CHECKED BY Danielson DATE 12-52 DATA COMPLETED _____ PROJ. ENG. _____ HISTORY CHECKED _____ ENTERED ON PLANS BY _____ DATE _____

GRAND RIVER AVE. BRIDGE APPROACHES

L-58-B-17 B 34 of 82-22-10

FILE NO.	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
82-163	UI 391 (49)		34

